

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : FIA 17,2 D
 Edition : 22.10.86
 Superceeded : 6.84
 Calibrating oil : ISO-4113
 Combination no. : 0 401 848 757
 Injection pump
 Pump designation : PE8P120A920/5LS3827
 EP type number : 0 411 828 712
 Governor
 Governor design. : RQV300...900PA475-1
 Governor no. : 0 421 813 420

Customer-spec. information
 Customer : IVECO-FIAT

Engine : 8280.22.201

1st version kW : 309.0
 Speed 1/min: 1800

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 8- 4- 3- 6- 5-
 : 7- 2

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 900

 Contr.-rod trav.mm: 13.10...13.20

 Del.quantity cm3/ : 21.4...21.6

 100H.: (21.1...21.9)

 Dispersion cm3/ : 0.5

 100H.: (0.9)

2nd speed 1/min: 300.0
 Contr.-rod trav. m: 5.2...5.4
 Del.quantity cm3/ : 1.3...1.9
 100H.: (1.0...2.2)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
 Sleeve travel mm: 1.60...1.70
 2nd speed 1/min: 450
 Sleeve travel mm: 3.50...4.10
 3rd speed 1/min: 750
 Sleeve travel mm: 6.10...6.40
 4th speed 1/min: 900
 Sleeve travel mm: 7.60...7.90

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 970
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 900
 Charge press. hPa : 900

Del.quantity cm3/ : 214.0...216.0
1000H.: (211.0...219.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 57...65

Testing:
1st c-rod trav.mm : 12.10
Speed 1/min : 940...950
2nd c-rod trav.mm : 4.00
Speed 1/min : 1055...1085
4th speed 1/min : 1200
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 7...15

Testing:
Speed 1/min : 100
C-rod trav.mm min : 6.80
Speed 1/min : 300
C-rod trav.mm : 5.20...5.40

CONSTANT REGULATION

Speed 1/min : 310...415

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 13.10...13.20

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.50...9.70
2nd pressure hPa : 440
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 340
C-rod trav.mm : 10.10...10.50

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 900
Speed 1/min : 550
Del.quantity cm3/ : 230.0...238.0
1000H.: (227.0...241.0)
Dispersion cm3/ : 12.00
1000H.: (16.0)
Charge press. hPa : -

Speed 1/min : 500
Del.quantity cm3/ : 133.0...135.0
1000H.: (130.0...138.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,6 Q 3
 Edition : 12.09.86
 Superseded : 10.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 848 760
 Injection pump
 Pump designation : PE8P120A320LS3807-10
 EP type number : 0 411 828 713
 Governor
 Governor design. : RQ300/1150PA546-4
 Governor no. : 0 421 801 291

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM 422 A

1st version kW : 243.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing^oCS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm3/ : 15.9...16.1

100H.: (15.6...16.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -2

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 159.0...161.0

1000H.: (156.0...164.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 9.70

Speed 1/min : 1195...1210

2nd c-rod trav.mm : 4.00

Speed 1/min : 1250...1280

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 5.4

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.00

Speed 1/min : 300

C-rod trav.mm : 5.30...5.50

C-rod trav.mm : 2.00

Speed 1/min : 370...420

TORQUE CONTROL

Dimension a mm : 0.30

Torque-control curve - 1st version

1st speed 1/min : 1150

C-rod trav.mm : 10.70...10.80

2nd speed 1/min : 750

C-rod trav.mm : 11.00...11.20

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : -

Contr.-rod trav.mm: 10.0...10.3

Measurement

Speed 1/min : 500

1st pressure hPa : 450

C-rod trav.mm : 10.10...10.30

2nd pressure hPa : 500

C-rod trav.mm : 10.50...10.70

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 750

Del.quantity cm3/ : 173.5...175.5

1000H.: (170.5...178.5)

Dispersion cm3/ : 7.00

1000H.: (11.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 138.0...140.0
1000H.: (135.0...143.0)
Dispersion cm3/ : 7.00
1000H.: (11.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,6 K 9
Edition : 31.10.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 848 763

Injection pump
Pump designation : PE8P120A320LS3807-10
EP type number : 0 411 828 713
Governor
Governor design. : RQV300...1150PA545-6
Governor no. : 0 421 813 594

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM422 LA

1st version kW : 276.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing^oCS: 0-45-90-135-180-225-
 270-315
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1150

 Contr.-rod trav.mm: 11.50...11.60

 Del.quantity cm3/ : 17.5...17.7

 100H.: (17.2...18.0)

 Dispersion cm3/ : 0.5

 100H.: (0.9)

 2nd speed 1/min: 300.0
 Contr.-rod trav. m: 5.1...5.3
 Del.quantity cm3/ : 1.2...2.0
 100H.: (0.9...2.3)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor**SLEEVE TRAVELS**

1st speed 1/min: 300
 Sleeve travel mm: 1.60...1.80
 2nd speed 1/min: 800
 Sleeve travel mm: 6.00...6.20
 3rd speed 1/min: 1200
 Sleeve travel mm: 8.60...8.80
 4th speed 1/min: 1270
 Sleeve travel mm: 9.70...10.40

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1190
 Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

A07

Speed 1/min: 1150
 Charge press. hPa : 700
 Del.quantity cm3/ : 175.0...177.0
 1000H.: (172.0...180.0)
 Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 52...60

Testing:

1st c-rod trav.mm : 10.50
 Speed 1/min : 1190...1200
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1250...1280
 4th speed 1/min : 1400
 C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
 position degrees: 16...24

Testing:

Speed 1/min : 100
 C-rod trav.mm min : 6.80
 Speed 1/min : 300
 C-rod trav.mm : 5.10...5.30

CONSTANT REGULATION

Speed 1/min : 300...400

TORQUE CONTROL

Torque-control curve - 1st version
 1st speed 1/min : 1150
 C-rod trav.mm : 11.50...11.60
 2nd speed 1/min : 750
 C-rod trav.mm : 11.80...12.00

compensator (LDA,ADA,ALDA)

1st version

Setting
 Speed 1/min : 500
 Pressure hPa : -
 Contr.-rod trav.mm: 10.30...10.40

Measurement

Speed 1/min : 500
 1st pressure hPa : 410
 C-rod trav.mm : 10.60...10.70
 2nd pressure hPa : 490
 C-rod trav.mm : 11.20...11.40

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 750

Del.quantity cm3/ : 187.0...190.0

1000H.: (184.0...193.0)

Dispersion cm3/ : 8.00

1000H.: (12.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 137.0...139.0

1000H.: (134.0...142.0)

Dispersion cm3/ : 8.00

1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,6 M 1
Edition : 28.10.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 401 848 778

Injection pump
Pump designation : PE8P110A32OLS3813-11
EP type number : 0 411 818 713
Governor
Governor design. : RQV350...1150PA378-3
Governor no. : 0 421 813 519

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM422

1st version kW : 206.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing^oCS: 0-45-90-135-180-225-
 270-315

Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.50...11.60

Del.quantity cm3/ : 13.1...13.3

100H.: (12.8...13.5)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 7.4...7.6

Del.quantity cm3/ : 1.4...1.8

100H.: (1.1...2.0)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1230

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Del.quantity cm3/ : 131.0...133.0

1000H.: (128.5...135.5)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 10.50

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1280...1310

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.70

Speed 1/min : 350

C-rod trav.mm : 7.00...7.20

CONSTANT REGULATION

Speed 1/min : 375...485

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 110.0...114.0

1000H.: (107.0...117.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Speed 1/min : 1150

Del.quantity cm3/ : 84.0...87.0

1000H.: (81.0...90.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Remarks:

* = Set at reduced-delivery stop.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 14,5 B1
 Edition : 07.11.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 848 779
 Injection pump
 Pump designation : PE8P120A520/4LS3834
 EP type number : 0 411 828 718
 Governor
 Governor design. : RQV250...1150PA668-7
 Governor no. : 0 421 813 481

Customer-spec. information
 Customer : MAN

Engine : D 2848 LE

1st version kW : 375.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.20...4.30
 : (4.15...4.35)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.80...11.90

Del.quantity cm3/ : 20.9...21.1

100H.: (20.6...21.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.9...7.1

Del.quantity cm3/ : 1.7...2.3

100H.: (1.4...2.6)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 0.90...1.10

2nd speed 1/min: 800

Sleeve travel mm: 6.20...6.40

3rd speed 1/min: 1150

Sleeve travel mm: 8.20...8.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1175

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Del.quantity cm3/ : 209.0...211.0

1000H.: (206.0...214.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 10.80

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1315...1345

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 64...72

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.50

Speed 1/min : 250

C-rod trav.mm : 6.90...7.10

C-rod trav.mm : 2.00

Speed 1/min : 405...465

SWITCH-OVER POINT

Speed 1/min : 200 (220)

Remarks:

: MAN-NR. 2-7678

APPLICATION

Ship

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 12,8 A
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 848 780
Injection pump
Pump designation : PE8P120A920/5LS3174
EP type number : 0 411 828 719
Governor
Governor design. : RQV300...1150PA802
Governer no. : 0 421 813 538

Customer-spec. information
Customer : KHD

Engine : BF8L513C

1st version kW : 265.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 15.00...19.00
Cam sequence : 1- 8- 7- 2- 6- 5-
 4- 3

SD ang. spacing⁰CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 13.50...13.60

Del.quantity cm3/ : 17.3...17.5

100H.: (17.0...17.8)

Dispersion cm3/ : 0.6

100H.: (1.0)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.1...7.3

Del.quantity cm3/ : 2.0...2.6

100H.: (1.7...2.9)

Dispersion cm3/ : 0.9

100H.: (1.3)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 400

Sleeve travel mm: 2.40...2.70

3rd speed 1/min: 550

Sleeve travel mm: 3.60...4.00

4th speed 1/min: 1200

Sleeve travel mm: 8.20...8.30

5th speed 1/min: 1285

Sleeve travel mm: 9.00...9.30

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1220

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 900
Del.quantity cm3/ : 173.0...175.0
1000H.: (170.0...178.0)
Dispersion cm3/ : 6.00
1000H.: (10.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 50...58

Testing:
1st c-rod trav.mm : 12.50
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1310...1340
4th speed 1/min : 1450
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 15...23

Testing:
Speed 1/min : 100
C-rod trav.mm min : 8.80
Speed 1/min : 300
C-rod trav.mm : 7.10...7.30

CONSTANT REGULATION

Speed 1/min : 300...510

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 13.50...13.60

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 12.30...12.50
2nd pressure hPa : 500
C-rod trav.mm : 13.10...13.20
3rd pressure hPa : 440
C-rod trav.mm : 12.60...12.80

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 700

Del.quantity cm3/ : 172.0...176.0
1000H.: (169.0...179.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 134.0...136.0
1000H.: (131.0...139.0)

APPLICATION

Special-purpose vehicle

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 C
Edition : 23.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 848 781
Injection pump
Pump designation : PE8P110A320LS3842
EP type number : 0 411 818 714
Governor
Governor design. : RQ300/950PA827K
Governor no. : 0 421 803 092

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM442

1st version kW : 206.0
Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
: (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 8- 7- 2- 6- 3- 5-
4- 1

SD ang. spacing⁰CS: 0-45-90-135-180-225-
270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 13.50...13.60

Del.quantity cm3/ : 13.3...13.5

100H.: (13.0...13.7)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.8...9.0

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.60...1.80

2nd speed 1/min: 500

Sleeve travel mm: 5.50...5.70

3rd speed 1/min: 775

Sleeve travel mm: 6.50...6.80

4th speed 1/min: 950

Sleeve travel mm: 7.50...7.80

5th speed 1/min: 1100

Sleeve travel mm: 9.50...10.00

SLEEVE POSITION

Control-lever position

Degree: -2

Speed 1/min: 600

Contr.-rod travelmm: 16.30...17.30

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 950

Del.quantity cm3/ : 133.0...135.0
1000H.: (130.5...137.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

Remarks:

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 32...40

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.8

Testing:

1st c-rod trav.mm : 12.50

Speed 1/min : 995...1010

2nd c-rod trav.mm : 4.00

Speed 1/min : 1070...1100

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever

position degrees: 8...16

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 8.9

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.00

Speed 1/min : 300

C-rod trav.mm : 8.80...9.00

C-rod trav.mm : 2.00

Speed 1/min : 400...440

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 950

C-rod trav.mm : 13.50...13.60

2nd speed 1/min : 600

C-rod trav.mm : 12.90...13.10

3rd speed 1/min : 750

C-rod trav.mm : 13.10...13.30

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 121.0...124.0

1000H.: (118.0...127.0)

Dispersion cm3/ : 8.00

1000H.: (11.0)

Speed 1/min : 750

Del.quantity cm3/ : 122.0...126.0

1000H.: (119.0...129.0)

Dispersion cm3/ : 8.00

1000H.: (-)

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 D
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 848 782

Injection pump
Pump designation : PE8P110A32OLS3842
EP type number : 0 411 818 714
Governor
Governor design. : RQV300...950PA829K
Governor no. : 0 421 815 156

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM442

1st version kW : 206.0
Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing^oCS: 0-45-90-135-180-225-
 270-315
Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 13.50...13.60

Del.quantity cm3/ : 13.3...13.5

100H.: (13.0...13.7)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.3...8.5

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.10...1.30

2nd speed 1/min: 500

Sleeve travel mm: 3.20...3.40

3rd speed 1/min: 800

Sleeve travel mm: 5.90...6.10

4th speed 1/min: 1000

Sleeve travel mm: 8.00...8.40

5th speed 1/min: 1125

Sleeve travel mm: 9.60...10.00

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 975

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 950

A18

Del.quantity cm3/ : 133.0...135.0
 1000H.: (130.5...137.5)
Dispersion cm3/ : 4.00
 1000H.: (8.00)

HIGHEST RATED SPEED

Testing:

1st c-rod trav.mm : 12.50

Speed 1/min : 995...1010

2nd c-rod trav.mm : 4.00

Speed 1/min : 1080...1110

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 18...26

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.00

Speed 1/min : 300

C-rod trav.mm : 8.30...8.50

CONSTANT REGULATION

Speed 1/min : 300...450

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 950

C-rod trav.mm : 13.50...13.60

2nd speed 1/min : 600

C-rod trav.mm : 12.90...13.10

3rd speed 1/min : 750

C-rod trav.mm : 13.20...13.40

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 118.0...121.0

1000H.: (115.0...124.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Speed 1/min : 750

Del.quantity cm3/ : 122.0...126.0

1000H.: (119.0...129.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 C 1
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 848 783
 Injection pump
 Pump designation : PE8P110A320LS3842
 EP type number : 0 411 818 714
 Governor
 Governor design. : RQ300/950PA187-15
 Governor no. : 0 421 801 369

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM442

1st version kW : 191.0

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 11.8...12.0

100H.: (11.5...12.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.3...8.5

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 13.00...14.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 950

Del.quantity cm3/ : 118.0...120.0

1000H.: (115.5...122.5)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 13.5

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 995...1010

2nd c-rod trav.mm : 4.00

Speed 1/min : 1045...1075
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 8.4

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.00

Speed 1/min : 300

C-rod trav.mm : 8.30...8.50

C-rod trav.mm : 2.00

Speed 1/min : 380...420

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 109.0...113.0

1000H.: (106.0...116.0)

Dispersion cm3/ : 6.00

1000H.: (11.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 D 2
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 848 784
 Injection pump
 Pump designation : PE8P110A320LS3842
 EP type number : 0 411 818 714
 Governor
 Governor design. : RQV350...950PA524-1
 Governor no. : 0 421 813 578

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM442

1st version kW : 191.0
 Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 : 4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 11.8...12.0

100H.: (11.5...12.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 8.3...8.5

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.00...1.20

2nd speed 1/min: 550

Sleeve travel mm: 4.90...5.10

3rd speed 1/min: 1000

Sleeve travel mm: 8.20...8.50

4th speed 1/min: 1050

Sleeve travel mm: 9.10...9.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1000

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 950

Del.quantity cm3/ : 118.0...120.0

1000H.: (115.5...122.5)

Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 51...59

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 995...1010

2nd c-rod trav.mm : 4.00

Speed 1/min : 1050...1080

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever

position degrees: 18...26

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.00

Speed 1/min : 350

C-rod trav.mm : 8.30...8.50

CONSTANT REGULATION

Speed 1/min : 350...450

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 109.0...113.0

1000H.: (106.0...116.0)

Dispersion cm3/ : 6.00

1000H.: (11.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 D 3
 Edition : 28.10.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 848 784
 Injection pump
 Pump designation : PE8P110A320LS3842
 EP type number : 0 411 818 714
 Governor
 Governor design. : RQV350...950PA524-11
 Governor no. : 0 421 813 578

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM442

1st version kW : 191.0
 Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 11.8...12.0

100H.: (11.5...12.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 8.3...8.5

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.00...1.20

2nd speed 1/min: 550

Sleeve travel mm: 4.90...5.10

3rd speed 1/min: 1000

Sleeve travel mm: 8.20...8.50

4th speed 1/min: 1050

Sleeve travel mm: 9.10...9.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1000

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 950

Del.quantity cm3/ : 118.0...120.0

1000H.: (115.5...122.5)

Dispersion cm³/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 51...59

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 995...1010

2nd c-rod trav.mm : 4.00

Speed 1/min : 1050...1080

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever

position degrees: 18...26

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.00

Speed 1/min : 350

C-rod trav.mm : 8.30...8.50

CONSTANT REGULATION

Speed 1/min : 350...450

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm³/ : 109.0...113.0

1000H.: (106.0...116.0)

Dispersion cm³/ : 6.00

1000H.: (11.0)

Remarks:

LOWEST RATED SPEED I

Control-lever
position degrees: 8...16

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.00
Speed 1/min : 300
C-rod trav.mm : 7.40...7.60

CONSTANT REGULATION

Speed 1/min : 350...550

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 75.0...80.0
1000H.: (72.0...83.0)
Dispersion cm3/ : -
1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 17.4B10
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 849 175

Injection pump
Pump designation : PE10P110A520/SLS850
EP type number : 0 411 819 021
Governor
Governor design. : RQ750PA663-4
Governor no. : 0 421 801 214

Customer-spec. information
Customer : MAN

Engine : D2540MTE

1st version kW : 235.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
: (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
: - 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
216-261-288-333
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.90...13.00

Del.quantity cm3/ : 15.1...15.4

100H.: (14.8...15.6)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 6.9...7.1
Del.quantity cm3/ : 1.2...1.7
100H.: (0.9...1.9)
Dispersion cm3/ : 0.4
100H.: (0.7)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 151.0...154.0
1000H.: (148.5...156.5)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

Testing:
1st c-rod trav.mm : 11.90
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 781...794
4th speed 1/min : 900
C-rod trav.mm : 0.00...1.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 D 1
Edition : 28.10.86
Superceeded : 1.85
Calibrating oil : ISO-4113

Combination no. : 0 401 849 709

Injection pump
Pump designation : PE10P110A320LS3818-1
EP type number : 0 411 819 703
Governor
Governor design. : RQV350...1150PA678
Governor no. : 0 421 813 402

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423

1st version kW : 261.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing⁰CS: 0-45-72-117-144-189-
 216-261-288-333
Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 12.6...12.8

 100H.: (12.3...13.0)

Dispersion cm3/ : 0.4

 100H.: (0.8)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 8.5...8.7
Del.quantity cm3/ : 1.4...2.2
 100H.: (1.1...2.4)
Dispersion cm3/ : 0.4
 100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -
Speed 1/min: 1200
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Del.quantity cm3/ : 126.0...128.0
 1000H.: (123.5...130.5)
Dispersion cm3/ : 4.00
 1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 60...68

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1240...1270

4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18

Testing:

Speed 1/min : 100
C-rod trav.mm min : 10.20
Speed 1/min : 350
C-rod trav.mm : 8.50...8.70

CONSTANT REGULATION

Speed 1/min : 350...500

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1150
C-rod trav.mm : 12.20...12.30
2nd speed 1/min : 600
C-rod trav.mm : 12.90...13.10
3rd speed 1/min : 900
C-rod trav.mm : 12.60...12.80

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 116.0...120.0
 1000H.: (113.0...123.0)
Dispersion cm3/ : 6.00
 1000H.: (9.00)
Speed 1/min : 900
Del.quantity cm3/ : 122.0...127.0
 1000H.: (119.0...130.0)
Dispersion cm3/ : 6.00
 1000H.: (9.00)
Speed 1/min : 1150
Del.quantity cm3/ : 92.0...94.0
 1000H.: (89.0...97.0)
Dispersion cm3/ : 6.00
 1000H.: (7.50)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 E 2
Edition : 12.09.86
Superceeded : 11.84
Calibrating oil : ISO-4113
Combination no. : 0 401 849 711
Injection pump
Pump designation : PE10P120A320LS3824-10
EP type number : 0 411 829 701
Governor
Governor design. : RQ300/1050PA511-3
Governor no. : 0 421 801 268

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

1st version kW : 368.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
(3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
- 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
216-261-288-333
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 18.3...18.5

100H.: (18.0...18.8)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 5.0...5.2
Del.quantity cm3/ : 1.6...2.2
100H.: (1.3...2.5)
Dispersion cm3/ : 0.8
100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 100
Sleeve travel mm: 0.00...0.50
2nd speed 1/min: 300
Sleeve travel mm: 2.60...2.70
3rd speed 1/min: 600
Sleeve travel mm: 5.90...6.00
4th speed 1/min: 1150
Sleeve travel mm: 5.90...6.00

SLEEVE POSITION

Control-lever position
Degree: -2
Speed 1/min: 600
Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Charge press. hPa : 700
Del.quantity cm3/ : 183.0...185.0
1000H.: (180.0...188.0)
Dispersion cm3/ : 5.00
1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 20.0

Testing:
1st c-rod trav.mm : 10.70
Speed 1/min : 1195...1210
2nd c-rod trav.mm : 4.00
Speed 1/min : 1245...1275
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.1

Testing:
Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 300
C-rod trav.mm : 5.00...5.20
C-rod trav.mm : 2.00
Speed 1/min : 360...400

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.70...11.80

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.00...10.20
2nd pressure hPa : 390
C-rod trav.mm : 10.40...10.60
3rd pressure hPa : 520
C-rod trav.mm : 11.40...11.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

B05

Charge press. hPa : 700
Speed 1/min : 750
Del.quantity cm3/ : 186.0...192.0
1000H.: (183.0...195.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 138.0...141.0
1000H.: (135.0...144.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 15,8 N
Edition : 12.09.86
Superceeded : 7.86
Calibrating oil : ISO-4113

Combination no. : 0 401 849 712

Injection pump
Pump designation : PE10P110A920/SLS3138
EP type number : 0 411 819 707
Governor
Governor design. : RQ300/1150PA535-1
Governor no. : 0 421 801 273

Customer-spec. information
Customer : KHD

Engine : BF10L413FZT

1st version kW : 265.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.10...3.20
: (3.05...3.25)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1-10- 9- 4- 3- 6-
5- 8- 7- 2

SD ang. spacing^oCS: 0-27-72-99-144-171-2
16-243-288-315

Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 9.7...10.0

100H.: (14.1...14.9)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.6...8.8

Del.quantity cm3/ : 1.1...1.9

100H.: (0.8...2.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -2

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.90

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Charge press. hPa : 900

Del.quantity cm3/ : 97.0...100.0

1000H.: (141.0...149.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1195...1210

2nd c-rod trav.mm : 4.00

Speed 1/min : 1235...1265

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 7.0

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.40

Speed 1/min : 300

C-rod trav.mm : 6.90...7.10

C-rod trav.mm : 2.00

Speed 1/min : 370...430

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1150

C-rod trav.mm : 11.30...11.40

2nd speed 1/min : 800

C-rod trav.mm : 12.00...12.10

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 12.00...12.10

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.00...10.10

2nd pressure hPa : 500

C-rod trav.mm : 11.50...11.60

3rd pressure hPa : 350

C-rod trav.mm : 10.20...10.40

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 D 2
Edition : 05.11.86
Superceeded : 1.85
Calibrating oil : ISO-4113
Combination no. : 0 401 849 713
Injection pump
Pump designation : PE10P110A32OLS3818-11
EP type number : 0 411 819 706
Governor
Governor design. : RQV350...1150PA678
Governor no. : 0 421 813 402

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423

1st version kW : 261.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
: (3.95...4.15)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
- 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
216-261-288-333
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.50...11.60

Del.quantity cm3/ : 12.2...12.4

100H.: (11.9...12.6)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 8.1...8.3

Del.quantity cm3/ : 1.4...2.2

100H.: (1.1...2.4)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1200

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Del.quantity cm3/ : 122.0...124.0

1000H.: (119.5...126.5)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 60...68

Testing:

1st c-rod trav.mm : 10.50

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1240...1270

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.80
Speed 1/min : 350
C-rod trav.mm : 8.10...8.30

CONSTANT REGULATION

Speed 1/min : 350...500

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1150
C-rod trav.mm : 11.50...11.60
2nd speed 1/min : 600
C-rod trav.mm : 12.00...12.20
3rd speed 1/min : 900
C-rod trav.mm : 11.90...12.10

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 110.0...114.0
1000H.: (107.0...117.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)
Speed 1/min : 900
Del.quantity cm3/ : 118.0...123.0
1000H.: (115.0...126.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)
Speed 1/min : 1150
Del.quantity cm3/ : 92.0...94.0
1000H.: (89.5...96.5)
Dispersion cm3/ : 6.00
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 H
Edition : 2.12.86
Superceeded : 9.85
Calibrating oil : ISO-4113

Combination no. : 0 401 849 714

Injection pump
Pump designation : PE10P120A320LS3829
EP type number : 0 411 829 703
Governor
Governor design. : RQV350...900PA493-4
Governor no. : 0 421 813 488

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

```
1st version kW : 309.0
Speed      1/min: 1800
```

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening pressure, bar : 207...210

Perforated-plate
diameter mm : 0.8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6,00x1,50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values

START OF DELIVERY

Test pressure, bar: 25...27

```
Prestroke mm      : 4.00...4.10
                  : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence      : 10- 9- 4- 1- 8- 7-
                  : 6- 3- 5- 2
```

SD ang. spacing^oCS: 0-45-72-117-144-189-
216-261-288-333

Tolerance \pm ⁰ : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 880

Contr.-rod trav.mm: 10.80...10.90

Del.quantity cm3/ : 16.9...17.1

100H.: (16.6...17.4)

Dispersion cm³/ : 0.50

100H.: (0.80)

```

2nd speed      1/min: 350
Contr.-rod trav. m: 4.60...4.80
Del.quantity   cm3/ : 1.4...2.0
                100H.: (1.1...2.3)
Dispersion     cm3/ : 0.80
                100H.: (1.20)

```

(B) Setting of injection pump with externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 350
Sleeve travel mm: 1.20...1.30
2nd speed 1/min: 400
Sleeve travel mm: 1.70...2.10
3rd speed 1/min: 600
Sleeve travel mm: 3.10...4.20
4th speed 1/min: 900
Sleeve travel mm: 8.20...8.40
5th speed 1/min: 970
Sleeve travel mm: 9.30...10.40

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 17/min: 900
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 880
Charge press. hPa : 700
Del.quantity cm3/ : 169.0...171.0
1000H.: (166.0...174.0)
Dispersion cm3/ : 5.0
1000H.: (8.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 59...67

Testing:

1st c-rod trav.mm : 9.80
Speed 1/min : 915...925
2nd c-rod trav.mm : 4.00
Speed 1/min : 945...975
4th speed 1/min : 1050
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 350
C-rod trav.mm : 4.60...4.80

CONSTANT REGULATION

Speed 1/min : 350...450

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 10.80...10.90

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.90...10.10
2nd pressure hPa : 420
C-rod trav.mm : 10.50...10.50

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600

Del.quantity cm3/ : 163.0...167.0
1000H.: (160.0...170.0)
Dispersion cm3/ : 8.0
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 138.0...140.0
1000H.: (135.0...143.0)
Dispersion cm3/ : 8.0
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 H 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 849 714

Injection pump
Pump designation : PE10P120A320LS3829
EP type number : 0 411 829 703
Governor
Governor design. : RQV350...900PA815
Governor no. : 0 421 813 557

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

1st version kW : 309.0
Speed 1/min: 1800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing⁰CS: 0-45-72-117-144-189-
 216-261-288-333
 Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 880

 Contr.-rod trav.mm: 10.80...10.90

 Del.quantity cm3/ : 16.9...17.1

 100H.: (16.6...17.4)

 Dispersion cm3/ : 0.5

 100H.: (0.8)

 2nd speed 1/min: 350.0
 Contr.-rod trav. m: 4.6...4.8
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.3)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

(B) Setting of injection pump with externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 350
 Sleeve travel mm: 1.20...1.30
 2nd speed 1/min: 400
 Sleeve travel mm: 1.70...2.10
 3rd speed 1/min: 600
 Sleeve travel mm: 3.10...4.20
 4th speed 1/min: 900
 Sleeve travel mm: 8.20...8.40
 5th speed 1/min: 970
 Sleeve travel mm: 9.30...10.40

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 900
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 880
 Charge press. hPa : 700
 Del.quantity cm3/ : 169.0...171.0
 1000H.: (166.0...174.0)
 Dispersion cm3/ : 5.00
 1000H.: (8.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 63...71

Testing:

1st c-rod trav.mm : 9.80
 Speed 1/min : 915...925
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 945...975
 4th speed 1/min : 1050
 C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
 position degrees: 5...13

Testing:

Speed 1/min : 100
 C-rod trav.mm min : 6.50
 Speed 1/min : 350
 C-rod trav.mm : 4.60...4.80

CONSTANT REGULATION

Speed 1/min : 350...450
 compensator (LDA,ADA,ALDA)

1st version

Setting
 Speed 1/min : 500
 Pressure hPa : 700
 Contr.-rod trav.mm: 10.80...10.90

Measurement

Speed 1/min : 500
 1st pressure hPa : -
 C-rod trav.mm : 9.90...10.10
 2nd pressure hPa : 420
 C-rod trav.mm : 10.50...10.60

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version
 Charge press. hPa : 700
 Speed 1/min : 600

Del.quantity cm3/ : 163.0...167.0
1000H.: (160.0...170.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 138.0...140.0
1000H.: (135.0...143.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

: -

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 D 5
Edition : 12.09.85
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 849 718
Injection pump
Pump designation : PE10P110A32OLS3818-10
EP type number : 0 411 819 705
Governor
Governor design. : RQV300...1150PA486-4
Governor no. : 0 421 813 508

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423

1st version kW : 261.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing⁰CS: 0-45-72-117-144-189-
SD ang. spacing⁰CS: 216-261-288-333
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.10...11.20

Del.quantity cm3/ : 12.1...12.3

100H.: (11.8...12.5)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.9...8.1

Del.quantity cm3/ : 1.4...2.2

100H.: (1.1...2.4)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.60...1.80

2nd speed 1/min: 800

Sleeve travel mm: 5.80...6.20

3rd speed 1/min: 1200

Sleeve travel mm: 8.20...8.40

4th speed 1/min: 1260

Sleeve travel mm: 9.60...10.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1190

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Del.quantity cm3/ : 121.0...123.0
1000H.: (118.5...125.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 10.10

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1235...1265

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 14...22

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.20

Speed 1/min : 300

C-rod trav.mm : 7.90...8.10

CONSTANT REGULATION

Speed 1/min : 300...500

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1150

C-rod trav.mm : 11.10...11.20

2nd speed 1/min : 600

C-rod trav.mm : 11.60...11.70

3rd speed 1/min : 900

C-rod trav.mm : 11.50...11.60

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 107.0...111.0

1000H.: (104.0...114.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Speed 1/min : 900

Del.quantity cm3/ : 115.0...120.0

1000H.: (112.0...123.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet	: MB 18,3 E 3
Edition	: 12.09.86
Superceeded	: 9.85
Calibrating oil	: ISO-4113
Combination no.	: 0 401 849 719
Injection pump	
Pump designation	: PE10P120A32OLS3824-10
EP type number	: 0 411 829 701
Governor	
Governor design.	: RQV300...1150PA724-2
Governer no.	: 0,421 813 509

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

1st version kW : 368.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values

START OF DELIVERY

Test pressure, bar: 25...27

```

Prestroke mm      : 4.00...4.10
                   : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence      : 10- 9- 4- 1- 8- 7
                   : - 6- 3- 5- 2

```

SD ang. spacing^oCS: 0-45-72-117-144-189-
216-261-288-333
Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 18.0...18.2

100H.: (17.7...18.5)

Dispersion cm³/ : 0.5

 100H.: (0.8)

```

2nd speed      1/min: 300.0
Contr.-rod trav. m: 5.0...5.2
Del.quantity   cm3/ : 1.6...2.2
                100H.: (1.3...2.5)
Dispersion     cm3/ : 0.8
                100H.: (1.2)

```

(B) Setting of injection pump with externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.00...1.20
2nd speed 1/min: 500
Sleeve travel mm: 4.00...4.50
3rd speed 1/min: 700
Sleeve travel mm: 5.30...5.80
4th speed 1/min: 1100
Sleeve travel mm: 7.40...7.80
5th speed 1/min: 1260
Sleeve travel mm: 9.50...10.50

SLEEVE POSITION

```
Control-lever position
Degree: -1
Speed 17/min: 1185
Cont.-rod travelmm: 15.20...17.80
```

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150
Charge press. hPa : 700
Del.quantity cm3/ : 180.0...182.0
1000H.: (177.0...185.0)
Dispersion cm3/ : 5.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.70
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1245...1275
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 300
C-rod trav.mm : 5.00...5.20

CONSTANT REGULATION

Speed 1/min : 300...400

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.70...11.80

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.00...10.20
2nd pressure hPa : 390
C-rod trav.mm : 10.40...10.60
3rd pressure hPa : 520
C-rod trav.mm : 11.20...11.30

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 750
Del.quantity cm3/ : 186.0...190.0
1000H.: (183.0...193.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 138.0...140.0
1000H.: (135.0...143.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 D 4
Edition : 28.10.86
Superceeded : 12.85
Calibrating oil : ISO-4113

Combination no. : 0 401 849 723

Injection pump
Pump designation : PE10P110A32OLS3818-1
2

EP type number : 0 411 819 709

Governor

Governor design. : RQV350...1150PA678-1

Governer no. : 0 421 813 522

Customer-spec. information

Customer : DAIMLER-BENZ

Engine : OM 423

1st version kW : 261.0

Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. ^{mm} : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing⁰CS: 0-45-72-117-144-189-
SD ang. spacing⁰CS: 216-261-288-333
Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 12.6...12.8

100H.: (11.9...12.7)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 8.5...8.7
Del.quantity cm3/ : 1.4...2.2
100H.: (1.1...2.4)
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -
Speed 1/min: 1200
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Del.quantity cm3/ : 126.0...128.0
1000H.: (119.0...127.0)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 60...68

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00

Speed 1/min : 1240...1270
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18

Testing:

Speed 1/min : 100
C-rod trav.mm min : 10.20
Speed 1/min : 350
C-rod trav.mm : 8.50...8.70

CONSTANT REGULATION

Speed 1/min : 350...500

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1150
C-rod trav.mm : 12.20...12.30
2nd speed 1/min : 600
C-rod trav.mm : 12.90...13.10
3rd speed 1/min : 900
C-rod trav.mm : 12.60...12.80

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 116.0...120.0
1000H.: (113.0...123.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)
Speed 1/min : 900
Del.quantity cm3/ : 122.0...127.0
1000H.: (119.0...130.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)
Speed 1/min : 1150
Del.quantity cm3/ : 92.0...94.0
1000H.: (89.0...97.0)
Dispersion cm3/ : 6.00
1000H.: (7.50)

Remarks:

* = Set at reduced-delivery stop.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 H 2
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 849 725

Injection pump
Pump designation : PE10P120A320LS3829
EP type number : 0 411 829 703
Governor
Governor design. : RQV350...1150PA806
Governor no. : 0 421 813 541

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 A

1st version kW : 301.0

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve
: 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
: (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
: - 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
216-261-288-333

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 10.20...10.30

Del.quantity cm3/ : 15.0...15.2

100H.: (14.7...15.5)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1150

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 150.0...152.0

1000H.: (147.0...155.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 57...65

Testing:

1st c-rod trav.mm : 9.20

Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1255...1285
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.60
Speed 1/min : 350
C-rod trav.mm : 4.70...4.90

CONSTANT REGULATION

Speed 1/min : 350...450

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1150
C-rod trav.mm : 10.20...10.30
2nd speed 1/min : 750
C-rod trav.mm : 10.50...10.70

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 9.30...9.50

Measurement

Speed 1/min : 500
1st pressure hPa : 350
C-rod trav.mm : 9.70...9.90

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 750
Del.quantity cm3/ : 161.0...165.0
1000H.: (158.0...168.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : 700
Speed 1/min : 1150
Del.quantity cm3/ : 126.0...130.0
1000H.: (123.0...133.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -

Speed 1/min : 500
Del.quantity cm3/ : 128.0...130.0
1000H.: (125.0...133.0)
Dispersion cm3/ : 8.00
1000H.: (-)

Remarks:

* = Set at reduced-delivery stop.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet	: MB 18,3 H 3
Edition	: 12.09.86
Superceeded	: -
Calibrating oil	: ISO-4113
Combination no.	: 0 401 849 726
Injection pump	
Pump designation	: PE10P120A320LS3829
EP type number	: 0 411 829 703
Governor	
Governor design.	: RQV350...1150PA493-7
Governer no.	: 0 421 813 545

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

1st version kW : 368.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening pressure, bar : 207...210

Perforated-plate
diameter mm : 0.8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values

START OF DELIVERY

Test pressure, bar: 25...27

```

Prestroke mm      : 4.00...4.10
                  : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence      : 10- 9- 4- 1- 8- 7
                  : - 6- 3- 5- 2

```

SD ang. spacing⁰CS: 0-45-72-117-144-189-
216-261-288-333

Tolerance \pm σ : 0.50 (0.75)

SD merk cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 12.10...12.20

Del.quantity cm3/ : 18.9...19.1

100H.: (18.6...19.4)

Dispersion cm³/ : 0.5

100H.: (0.8)

```

2nd speed      1/min: 350.0
Contr.-rod trav. m: 4.8...5.0
Del.quantity   cm3/  : 1.6...2.2
                100H.: (1.3...2.5)
Dispersion     cm3/  : 0.8
                100H.: (1.2)

```

(B) Setting of injection pump with externally-mounted governor

SLEEVE TRAVELS

1st speed	1/min:	350
Sleeve travel	mm:	1.60...1.70
2nd speed	1/min:	450
Sleeve travel	mm:	3.00...3.20
3rd speed	1/min:	800
Sleeve travel	mm:	4.80...5.10
4th speed	1/min:	1200
Sleeve travel	mm:	9.20...9.40
5th speed	1/min:	1300
Sleeve travel	mm:	9.90...10.40

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 17/min: 1170
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Charge press. hPa : 700
Del.quantity cm3/ : 189.0...191.0
1000H.: (186.0...194.0)
Dispersion cm3/ : 5.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 62...70

Testing:

1st c-rod trav.mm : 11.10
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1260...1290
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.70
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

CONSTANT REGULATION

Speed 1/min : 350...450

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 9.30...9.60

Measurement

Speed 1/min : 500

1st pressure hPa : 360
C-rod trav.mm : 9.90...10.00
2nd pressure hPa : 520
C-rod trav.mm : 11.3...11.50

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600

Del.quantity cm3/ : 184.0...190.0
1000H.: (181.0...193.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : 700
Speed 1/min : 1150
Del.quantity cm3/ : 140.0...142.0
1000H.: (137.0...145.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 128.0...130.0
1000H.: (125.0...133.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

* = Set at reduced-delivery stop.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet	: MB 18,3 H 4
Edition	: 12.09.86
Superceeded	: -
Calibrating oil	: ISO-4113
Combination no.	: 0 401 849 727
Injection pump	
Pump designation	: PE10P120A320LS3829
EP type number	: 0 411 829 703
Governor	
Governor design.	: RQV350...1000PA493-8
Governer no.	: 0 421 813 548

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 A

1st version kW : 294.0
Speed 1/min: 2000

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values

START OF DELIVERY

Test pressure, bar: 25...27

```

Prestroke mm      : 4.00...4.10
                   : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence      : 10- 9- 4- 1- 8- 7
                   : - 6- 3- 5- 2

```

SD ang. spacing⁰CS: 0-45-72-117-144-189-
216-261-288-333
Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 10.30...10.40

Del.quantity cm3/ : 15.4...15.6

100H.: (15.1...15.9)

Dispersion cm³/ : 0.5
100% : (0.8)

```

2nd speed      1/min: 350.0
Contr.-rod trav. m: 4.6...4.8
Del.quantity   cm3/ : 1.4...2.0
                100H.: (1.1...2.3)
Dispersion     cm3/ : 0.8
                100H.: (1.2)

```

(B) Setting of injection pump with externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 350
Sleeve travel mm: 1.20...1.30
2nd speed 1/min: 400
Sleeve travel mm: 1.70...2.10

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1150
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

```
1st version
Speed      1/min: 1000
Charge press. hPa : 700
Del.quantity cm3/ : 154.0...156.0
           1000H.: (151.0...159.0)
```

Dispersion cm3/ : 5.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: -

Testing:

1st c-rod trav.mm : 9.20
Speed 1/min : 1040...1050
2nd c-rod trav.mm : 4.00
Speed 1/min : 1180...1210
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 350
C-rod trav.mm : 4.60...4.80

CONSTANT REGULATION

Speed 1/min : 350...450

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1000
C-rod trav.mm : 10.20...10.30
2nd speed 1/min : 750
C-rod trav.mm : 10.50...10.60
3rd speed 1/min : 900
C-rod trav.mm : 10.30...10.50

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 9.30...9.50

Measurement

Speed 1/min : 500
1st pressure hPa : 320
C-rod trav.mm : 9.50...9.60
2nd pressure hPa : 380
C-rod trav.mm : 10.00...10.20

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 750
Del.quantity cm3/ : 159.0...163.0
1000H.: (156.0...166.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 128.0...130.0
1000H.: (125.0...133.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 15,8 0
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 849 729

Injection pump
Pump designation : PE10P110A920/SLS3073
EP type number : 0 411 819 701
Governor
Governor design. : RQV300...1150PA816
Governor no. : 0 421 813 559

Customer-spec. information
Customer : KHD

Engine : BF10L413F

1st version kW : 252.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1-10- 9- 4- 3- 6-
5- 8- 7- 2

SD ang. spacing⁰CS: 0-27-72-99-144-171-2
16-243-288-315
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 10.80...10.90

Del.quantity cm3/ : 12.4...12.6

100H.: (12.1...12.9)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.4...6.6

Del.quantity cm3/ : 1.4...1.9

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 390

Sleeve travel mm: 2.40...2.80

3rd speed 1/min: 450

Sleeve travel mm: 2.80...3.20

4th speed 1/min: 1180

Sleeve travel mm: 8.30...8.40

5th speed 1/min: 1260

Sleeve travel mm: 9.10...9.30

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1180

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 124.0...126.0

1000H.: (121.0...129.0)

Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 59...67

Testing:

1st c-rod trav.mm : 9.80

Speed 1/min : 1180...1190

2nd c-rod trav.mm : 4.00

Speed 1/min : 1240...1270

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 15...23

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.90

Speed 1/min : 300

C-rod trav.mm : 6.40...6.60

CONSTANT REGULATION

Speed 1/min : 320...480

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 10.80...10.90

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.60...9.70

2nd pressure hPa : 340

C-rod trav.mm : 10.50...10.60

3rd pressure hPa : 240

C-rod trav.mm : 9.80...10.00

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 800

Del.quantity cm3/ : 119.0...123.0

1000H.: (116.0...126.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 90.0...94.0
1000H.: (88.0...96.0)

APPLICATION

Excavator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 15,8 P
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 849 731
Injection pump
Pump designation : PE10P110A920/SLS3073
EP type number : 0 411 819 701
Governor
Governor design. : RQV300...1050PA822
Governor no. : 0 421 813 563

Customer-spec. information
Customer : KHD

Engine : BF10L413F

1st version kW : 238.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1-10- 9- 4- 3- 6-
5- 8- 7- 2

SD ang. spacing°CS: 0-27-72-99-144-171-2
16-243-288-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 10.60...10.70

Del.quantity cm3/ : 12.1...12.3

100H.: (11.8...12.6)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.4...6.6

Del.quantity cm3/ : 1.4...1.9

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.20...1.40

2nd speed 1/min: 370

Sleeve travel mm: 2.40...2.70

3rd speed 1/min: 800

Sleeve travel mm: 5.40...5.60

4th speed 1/min: 1080

Sleeve travel mm: 8.50...8.70

5th speed 1/min: 1140

Sleeve travel mm: 9.30...9.50

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1080

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Del.quantity cm3/ : 121.0...123.0

1000H.: (118.0...126.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...58

Testing:

1st c-rod trav.mm : 9.60

Speed 1/min : 1080...1090

2nd c-rod trav.mm : 4.00

Speed 1/min : 1135...1165

4th speed 1/min : 1250

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 14...22

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.00

Speed 1/min : 300

C-rod trav.mm : 6.50...6.70

CONSTANT REGULATION

Speed 1/min : 300...410

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750

Del.quantity cm3/ : 116.0...120.0

1000H.: (113.0...123.0)

Remarks:

APPLICATION

Excavator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 E 4
Edition : 05.11.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 849 733

Injection pump
Pump designation : PE10P120A320LS3824-10
EP type number : 0 411 829 701
Governor
Governor design. : RQ300/1150PA546-11
Governor no. : 0 421 801 384

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

1st version kW : 301.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00 ..4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
SD ang. spacing°CS: 216-261-288-333
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 15.2...15.4

100H.: (14.9...15.7)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.0...5.2

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.70...1.90

2nd speed 1/min: 600

Sleeve travel mm: 5.90...6.10

3rd speed 1/min: 1100

Sleeve travel mm: 6.20...6.40

4th speed 1/min: 1200

Sleeve travel mm: 6.50...6.90

5th speed 1/min: 1275

Sleeve travel mm: 8.80...9.20

SLEEVE POSITION

Control-lever position

Degree: -2

Speed 1/min: 600

Cont.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150
Charge press. hPa : 700
Del.quantity cm3/ : 152.0...154.0
1000H.: (149.0...157.0)
Dispersion cm3/ : 5.00
1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 20.0

Testing:
1st c-rod trav.mm : 10.10
Speed 1/min : 1195...1210
2nd c-rod trav.mm : 4.00
Speed 1/min : 1250...1280
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.1

Testing:
Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 300
C-rod trav.mm : 5.00...5.20
C-rod trav.mm : 2.00
Speed 1/min : 360...400

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1150
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 750
C-rod trav.mm : 11.60...11.80

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 10.40...10.60

Measurement

Speed 1/min : 500
1st pressure hPa : 360
C-rod trav.mm : 10.50...10.60
2nd pressure hPa : 420
C-rod trav.mm : 10.90...11.10

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 750
Del.quantity cm3/ : 169.0...172.0
1000H.: (166.0...175.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 134.0...136.0
1000H.: (131.0...139.0)
Dispersion cm3/ : 8.00
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 18,2 C
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 849 734

Injection pump
Pump designation : PE10P120A520/5LS3843
EP type number : 0 411 829 707
Governor
Governor design. : RQ300/1000PA837
Governor no. : 0 421 801 372

Customer-spec. information
Customer : MAN

Engine : D2840LF

1st version kW : 338.0
Speed 1/min: 2000

TEST BATCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.20...4.30
 : (4.15...4.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing^oCS: 0-45-72-117-144-189-
 216-261-288-333
Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 20.1...20.3

 100H.: (19.8...20.6)

Dispersion cm3/ : 0.5

 100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 6.0...6.2
Del.quantity cm3/ : 1.7...2.3
 100H.: (1.4...2.6)
Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: 45...47
Speed 1/min: 600
Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1000
Charge press. hPa : 1000
Del.quantity cm3/ : 201.0...203.0
 1000H.: (198.0...206.0)
Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 20.0

Testing:
1st c-rod trav.mm : 10.30
Speed 1/min : 1045...1060

2nd c-rod trav.mm : 4.00
Speed 1/min : 1125...1155
4th speed 1/min : 1250
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 6.1

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.60
Speed 1/min : 250
C-rod trav.mm : 6.00...6.20
C-rod trav.mm : 2.00
Speed 1/min : 365...405

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1000
C-rod trav.mm : 11.80...11.90
2nd speed 1/min : 600
C-rod trav.mm : 11.80...12.00

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 10.10...10.20
2nd pressure hPa : 530
C-rod trav.mm : 10.40...10.50
3rd pressure hPa : 650
C-rod trav.mm : 10.90...11.10

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 144.0...146.0
 1000H.: (141.0...149.0)

Remarks:

: MAN-NR. 2-7778

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 18,2 C1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 849 735
Injection pump
Pump designation : PE10P120A520/SLS3843
EP type number : 0 411 829 707
Governor
Governor design. : RQV300...1000PA838
Governor no. : 0 421 813 585

Customer-spec. information
Customer : MAN

Engine : D2840LF

1st version kW : 338.0
Speed 1/min: 2000

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.20...4.30
 : (4.15...4.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7-
 - 6- 3- 5- 2

SD ang. spacing⁰CS: 0-45-72-117-144-189-
 216-261-288-333

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 20.1...20.3

100H.: (19.8...20.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.0...6.2

Del.quantity cm3/ : 1.7...2.3

100H.: (1.4...2.6)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.00...1.40

2nd speed 1/min: 500

Sleeve travel mm: 3.10...3.50

3rd speed 1/min: 850

Sleeve travel mm: 6.60...6.90

4th speed 1/min: 1000

Sleeve travel mm: 7.70...7.90

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1150

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Charge press. hPa : 1000

Del.quantity cm3/ : 201.0...203.0
1000H.: (198.0...206.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 49...57

Testing:

1st c-rod trav.mm : 10.30
Speed 1/min : 1040...1050
2nd c-rod trav.mm : 4.00
Speed 1/min : 1115...1145
4th speed 1/min : 1250
C-rod trav.mm : 0.00...1.00
5th speed 1/min : 13...
C-rod trav.mm : 21

LOWEST RATED SPEED I

Control-lever

position degrees: 79...87

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.60
Speed 1/min : 250
C-rod trav.mm : 6.00...6.20

CONSTANT REGULATION

Speed 1/min : 335...445

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.10...10.20
2nd pressure hPa : 530
C-rod trav.mm : 10.40...10.50
3rd pressure hPa : 650
C-rod trav.mm : 10.90...11.10

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 144.0...146.0
1000H.: (141.0...149.0)

Remarks:

: MAN-NR. 2-7779

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 10,0 B
 Edition : 12.09.86
 Superceeded : 5.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 856 142
 Injection pump
 Pump designation : PE6P110A721RS369
 EP type number : 0 411 816 121
 Governor
 Governor design. : RQ300/1300PA412DR
 Governor no. : 0 421 803 086

Customer-spec. information
 Customer : STEYR

Engine : WD615.60

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness : 6.00x1.50x600
 x Length mm

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120 180-240-300
Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm3/ : 11.7...11.9

100H.: (11.4...12.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 9.3...9.5

Del.quantity cm3/ : 1.8...2.4

100H.: (1.5...2.6)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 117.0...119.0

1000H.: (114.0...122.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 11.70

Speed 1/min : 1345...1360

2nd c-rod trav.mm : 4.00

Speed 1/min : 1405...1435

4th speed 1/min : 1550

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 6.0

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.40

Speed 1/min : 300

C-rod trav.mm : 5.90...6.10

C-rod trav.mm : 2.00

Speed 1/min : 390...430

TORQUE CONTROL

Dimension a mm : 0.25

Torque-control curve - 1st version

1st speed 1/min : 1300

C-rod trav.mm : 12.50...12.60

2nd speed 1/min : 700

C-rod trav.mm : 13.20...13.30

3rd speed 1/min : 900

C-rod trav.mm : 12.90...13.10

4th speed 1/min : 1100

C-rod trav.mm : 12.60...12.70

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 13.20...13.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 12.40...12.60

2nd pressure hPa : 310

C-rod trav.mm : 13.10...13.20

3rd pressure hPa : 270

C-rod trav.mm : 12.90...13.10

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 700

Del.quantity cm3/ : 114.0...116.0

1000H.: (111.0...119.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 98.0...100.0

1000H.: (95.0...103.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 10,0 B1
Edition : 12.09.86
Superceeded : 5.84
Calibrating oil : ISO-4113
Combination no. : 0 401 856 143
Injection pump
Pump designation : PE6P110A721RS369
EP type number : 0 411 816 121
Governor
Governor design. : RQV250...1300PA413DR
Governor no. : 0 421 815 150

Customer-spec. information
Customer : STEYR

Engine : WDWD615.60

1st version kW : 191.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 12.70...12.80

Del.quantity cm3/ : 12.3...12.5
100H.: (12.0...12.8)

Dispersion cm3/ : 0.4
100H.: (0.7)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 9.3...9.5
Del.quantity cm3/ : 1.8...2.4
100H.: (1.5...2.6)
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1300
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1300
Charge press. hPa : 700
Del.quantity cm3/ : 123.0...125.0
1000H.: (120.0...128.0)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 43...51

Testing:
1st c-rod trav.mm : 11.70
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1450...1480
4th speed 1/min : 1550
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 11...19

Testing:

Speed 1/min : 100
C-rod trav.mm min : 10.50
Speed 1/min : 250
C-rod trav.mm : 9.30...9.50
C-rod trav.mm : 2.00
Speed 1/min : 420...480

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300
C-rod trav.mm : 12.70...12.80
2nd speed 1/min : 700
C-rod trav.mm : 13.20...13.40
3rd speed 1/min : 900
C-rod trav.mm : 12.90...13.10
4th speed 1/min : 1100
C-rod trav.mm : 12.60...12.80

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 13.20...13.40

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 12.40...12.60
2nd pressure hPa : 310
C-rod trav.mm : 13.10...13.20
3rd pressure hPa : 270
C-rod trav.mm : 12.90...13.10

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 700
Del.quantity cm3/ : 114.0...116.0
1000H.: (111.0...119.0)
Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 98.0...100.0
1000H.: (95.0...103.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 9,7 B 1
Edition : 12.09.86
Superceeded : 11.82
Calibrating oil : ISO-4113

Combination no. : 0 401 856 700

Injection pump
Pump designation : PE6P110A721RS3101
EP type number : 0 411 816 725
Governor
Governor design. : RQ300/1200PA412
Governor no. : 0 421 801 172

Customer-spec. information
Customer : STEYR

Engine : WD615.67

1st version kW : 206.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 16.2...16.4

100H.: (15.9...16.7)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.8...6.0

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.0)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Charge press. hPa : 700

Del.quantity cm3/ : 162.0...164.0

1000H.: (159.0...167.0)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 1245...1260

2nd c-rod trav.mm : 4.00

Speed 1/min : 1325...1355

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 5.9

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.50

Speed 1/min : 300

C-rod trav.mm : 5.80...6.00

C-rod trav.mm : 2.00

Speed 1/min : 405...445

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1200

C-rod trav.mm : 12.00...12.10

2nd speed 1/min : 600

C-rod trav.mm : 12.40...12.50

3rd speed 1/min : 985

C-rod trav.mm : 12.30...12.40

4th speed 1/min : 1075

C-rod trav.mm : 12.00...12.20

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 12.40...12.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.80...9.90

2nd pressure hPa : 420

C-rod trav.mm : 11.50...11.60

3rd pressure hPa : 330

C-rod trav.mm : 10.20...10.40

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 700

Del.quantity cm3/ : 165.0...169.0

1000H.: (163.0...171.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 120.0...122.0

1000H.: (117.0...125.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 9,7 B
Edition : 12.09.86
Superceeded : 11.82
Calibrating oil : ISO-4113
Combination no. : 0 401 856 701
Injection pump
Pump designation : PE6P110A721RS3101
EP type number : 0 411 816 725
Governor
Governor design. : RQV250/1200PA413
Governer no. : 0 421 813 333

Customer-spec. information
Customer : STEYR

Engine : WD615.67

1st version kW : 206.0

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 16.2...16.4

100H.: (15.9...16.7)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.8...6.0

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.0)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1290

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Charge press. hPa : 700

Del.quantity cm3/ : 162.0...164.0

1000H.: (159.0...167.0)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 41...49

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1335...1365

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.50
Speed 1/min : 250
C-rod trav.mm : 5.80...6.00
C-rod trav.mm : 2.00
Speed 1/min : 360...420

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1200
C-rod trav.mm : 12.00...12.10
2nd speed 1/min : 500
C-rod trav.mm : 12.50...12.60
3rd speed 1/min : 880
C-rod trav.mm : 12.20...12.30
4th speed 1/min : 1060
C-rod trav.mm : 12.00...12.20

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 12.40...12.60

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.80...9.90
2nd pressure hPa : 420
C-rod trav.mm : 11.50...11.60
3rd pressure hPa : 330
C-rod trav.mm : 10.20...10.40

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 700
Del.quantity cm3/ : 165.0...169.0
1000H.: (163.0...171.0)
Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 120.0...125.0
1000H.: (117.0...125.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MWM 21,6 A1
Edition : 07.11.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 870 089
Injection pump
Pump designation : PE12P120A520/SRS428-1
EP type number : 0 411 820 034
Governor
Governor design. : RSUV300...750P10A356
Governer no. : 0 421 829 103

Customer-spec. information
Customer : MWM

Engine : D234V12

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 2- 9- 10- 5- 6-
11- 12- 3- 4- 7- 8

SD ang. spacing°CS: 0-30-60-90-120-150-
180-210-240-270-300-
330

Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 9.70...9.80

Del.quantity cm3/ : 17.1...17.5

100H.: (16.8...17.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.9...6.1

Del.quantity cm3/ : 2.8...3.6

100H.: (2.5...3.9)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 2.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Del.quantity cm3/ : 171.0...175.0

1000H.: (168.0...178.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 39...47

Testing:

1st c-rod trav.mm : 8.70

Speed 1/min : 790...800

2nd c-rod trav.mm : 4.00

Speed 1/min : 800...830

4th speed 1/min : 950
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 12...20

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 5.5

Speed 1/min : 300

C-rod trav.mm : 5.90...6.10

C-rod trav.mm : 2.00

Speed 1/min : 310...370

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 9.70...9.80

2nd speed 1/min : 450

C-rod trav.mm : 9.70...9.80

3rd speed 1/min : 310

C-rod trav.mm : 11.00...11.60

Remarks:

APPLICATION

Generator set

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 Q
Edition : 19.12.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 870 700
Injection pump
Pump designation : PE12P110A320LS3820-11
EP type number : 0 411 810 706
Governor
Governor design. : RSV350...1050POA824-1
Governor no. : 0 421 833 218

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 424

1st version kW : 286.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...170

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

C25

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav. mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-180-225-240-285-300-345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav. mm: 11.40...11.50

Del. quantity cm3/ : 11.5...11.7

100H.: (11.2...11.9)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 7.8...8.0

Del. quantity cm3/ : 1.4...2.0

100H.: (1.1...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travel mm: 0.30...1.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Del. quantity cm3/ : 115.0...117.0

1000H.: (112.5...119.5)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 34...42

Testing:

1st c-rod trav. mm : 10.40

Speed 1/min : 1170...1180
2nd c-rod trav.mm : 4.00
Speed 1/min : 1235...1265

LOWEST RATED SPEED I

Control-lever
position degrees: 14...22
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 7.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.30
Speed 1/min : 350
C-rod trav.mm : 7.80...8.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 95.0...100.0
1000H.: (92.0...103.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 Q 1
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : G 401 870 701
 Injection pump
 Pump designation : PE12P110A320LS3820-11
 EP type number : 0 411 810 706
 Governor
 Governor design. : RSV350...750POA824-5
 Governor no. : 0 421 833 231

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM 424

1st version kW : 247.0
 Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 150...170

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 12- 1- 5- 9- 8- 3
 : - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
 SD ang. spacing°CS: 180-225-240-285-300-
 345
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.70...12.80

Del.quantity cm3/ : 12.6...12.8
 100H.: (12.3...13.0)

Dispersion cm3/ : 0.4
 100H.: (0.8)

2nd speed 1/min: 350.0
 Contr.-rod trav. m: 7.7...7.9
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.2)
 Dispersion cm3/ : 0.4
 100H.: (0.7)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 126.0...128.0
 1000H.: (123.5...130.5)
 Dispersion cm3/ : 4.00
 1000H.: (8.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: -

Testing:
 1st c-rod trav.mm : 11.70
 Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00
Speed 1/min : 780...793

LOWEST RATED SPEED I

Control-lever

position degrees: -

Setting point w/out aux. spring

Speed 1/min : 350

Contr.-rod trav.mm: 7.50

Speed 1/min : 350

C-rod trav.mm : 7.40...7.60

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 R
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 870 702
Injection pump
Pump designation : PE12P120A320LS3819-11
EP type number : 0 411 820 708
Governor
Governor design. : RSV350...750POA824-6
Governor no. : 0 421 833 232

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 424 A

1st version kW : 348.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...160

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
(3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
- 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-180-225-240-285-300-345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.90...12.00

Del.quantity cm3/ : 19.3...19.5

100H.: (19.0...19.8)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 193.0...195.0

1000H.: (190.0...198.0)

Dispersion cm3/ : 5.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 27...35

Testing:

1st c-rod trav.mm : 10.90

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 775...788

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 900
4th speed 1/min : 840
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 R 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 870 703
Injection pump
Pump designation : PE12P120A32OLS3819-11
EP type number : 0 411 820 708
Governor
Governor design. : RSV350...750POA824-7
Governor no. : 0 421 833 233

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 424 LA

1st version kW : 389.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...170

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-180-225-240-285-300-345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.40...12.50

Del.quantity cm3/ : 20.2...20.4

100H.: (19.9...20.7)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.6...4.8

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 2.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 202.0...204.0

1000H.: (199.0...207.0)

Dispersion cm3/ : 5.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 24...30

Testing:

1st c-rod trav.mm : 11.40
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 775...788
4th speed 1/min : 900
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.7
Speed 1/min : 350
C-rod trav.mm : 4.60...4.80

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 S
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 870 704

Injection pump
Pump designation : PE12P120A32OLS3836-1
EP type number : 0 411 820 718
Governor
Governor design. : RSV350...750POA824-6
Governor no. : 0 421 833 232

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 424 A

1st version kW : 348.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...170

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
 180-225-240-285-300-
 345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.90...12.00

Del.quantity cm3/ : 19.3...19.5

100H.: (19.0...19.8)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 193.0...195.0

1000H.: (190.0...198.0)

Dispersion cm3/ : 5.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 27...35

Testing:

1st c-rod trav.mm : 10.90
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 775...788
4th speed 1/min : 840
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 8...16
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 S 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 870 705

Injection pump
Pump designation : PE12P120A32OLS3836-1
EP type number : 0 411 820 718
Governor
Governor design. : RSV350...750POA824-7
Governor no. : 0 421 833 233

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 424 LA

1st version kW : 389.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...170

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
 180-225-240-285-300-
 345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.40...12.50

Del.quantity cm3/ : 20.2...20.4
 100H.: (19.9...20.7)

Dispersion cm3/ : 0.5
 100H.: (0.8)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 4.8...5.0
Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.3)
Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION

Control-lever position

 Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
Notch setting x : 2.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 202.0...204.0
 1000H.: (199.0...207.0)
Dispersion cm3/ : 5.00
 1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 26...34

Testing:

1st c-rod trav.mm : 11.40
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 775...788
4th speed 1/min : 900
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.9
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

APPLICATION

Generator

Note inst. in remarks column

D09

Testing:
1st c-rod trav.mm : 11.70
Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00
Speed 1/min : 780...793

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 7.90

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.0
Speed 1/min : 350
C-rod trav.mm : 7.80...8.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note: inst. in remarks column

Test sheet : DAF 11,6T28
Edition : 12.12.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 876 234

Injection pump
Pump designation : PE6P110A32ORS385
EP type number : 0 411 816 127
Governor
Governor design. : RSV200...900A7/459R
Governor no. : 0 421 833 105

Customer-spec. information
Customer : DAF

Engine : DK,DKT,DKS,DKA

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6,00x1,50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 850
Contr.-rod trav.mm: 11.0...11.1
Del.quantity cm3/ : 13.6...13.9
 100H.: (13.3...14.1)
Dispersion cm3/ : 0.40
 100H.: (0.80)

2nd speed 1/min: 200
Contr.-rod trav. m: 6.50...6.70
Del.quantity cm3/ : 1.1...1.5
 100H.: (-)
Dispersion cm3/ : 0.40
 100H.: (0.70)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 800
Contr.-rod travelmm: 0.30...1.00

Governor-spring reload
Notch setting x : 4.0

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 850
Del.quantity cm3/ : 136.0...139.0
 1000H.: (133.0...141.0)
Dispersion cm3/ : 4.0
 1000H.: (8.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 57...65

Testing:
1st c-rod trav.mm : 10.00
Speed 1/min : 940...950
2nd c-rod trav.mm : 4.00
Speed 1/min : 965...995
4th speed 1/min : 1100
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29
Setting point w/out aux. spring
Speed 1/min : 200

Contr.-rod trav.mm: 6.10

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 200
C-rod trav.mm : 6.50...6.70
C-rod trav.mm : 2.00
Speed 1/min : 320...350

CONSTANT REGULATION

Speed 1/min : 290...350

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 K2
 Edition : 4.2.87
 Superceeded : 11.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 261
 Injection pump
 Pump designation : PE6P120A32ORS372-1Y
 EP type number : 0 411 826 125
 Governor
 Governor design. : RSV250...1100PS/458R
 Governor no. : 0 421 833 104

Customer-spec. information
 Customer : DAF

Engine : DKX 1160

1st version kW : 242.7
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6,00X1,50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 850

Contr.-rod trav.mm: 11.40...11.50

Del.quantity cm3/ : 18.3...18.5

100H.: (18.0...18.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250

Contr.-rod trav. m: 6.40...6.60

Del.quantity cm3/ : 1.1...1.5

100H.: (0.8...1.8)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position
 Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
 Notch setting x : 5.0

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 850

Charge press. hPa : 700

Del.quantity cm3/ : 183.5...185.5

1000H.: (180.5...188.5)

Dispersion cm3/ : 5.0

1000H.: (9.0)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.40

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1200...1230

3rd c-rod trav.mm : 4.00
Speed 1/min : 1270...1300
4th speed 1/min : 1425
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 20...28
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 6.00
Speed 1/min : 250
C-rod trav.mm : 6.40...6.60
C-rod trav.mm : 2.00
Speed 1/min : 670...730

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 850
C-rod trav.mm : 11.60...11.70
2nd speed 1/min : 400
C-rod trav.mm : 11.60...11.80
3rd speed 1/min : 300
C-rod trav.mm : 11.90...12.40

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 11.40...11.50

Measurement

Speed 1/min : 600

1st pressure hPa : -
C-rod trav.mm : 10.00...10.10
2nd pressure hPa : 370
C-rod trav.mm : 11.00...11.10
3rd pressure hPa : 300
C-rod trav.mm : 10.30...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : -
Speed 1/min : 600
Del.quantity cm3/ : 135.5...137.5
1000H.: (132.5...140.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 07
 Edition : 12.09.86
 Superseded : 10.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 295
 Injection pump
 Pump designation : PE6P120A32ORS415-1
 EP type number : 0 411 826 123
 Governor
 Governor design. : RSV250...1000PSA508-1
 Governor no. : 0 421 833 194
 Customer-spec. information
 Customer : DAF

Engine : DKZ 1160

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 1 688 901 019
 Opening
 pressure, bar : 207...210
 Perforated-plate
 diameter mm : 0,8
 Test inj. tubing : 1 680 750 067
 Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000
 (A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27
 Prestroke mm : 2.80...2.90
 : (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 850
 Contr.-rod trav.mm: 12.50...12.60
 Del.quantity cm3/ : 20.6...20.8
 100H.: (20.3...21.1)
 Dispersion cm3/ : 0.5
 100H.: (0.9)
 2nd speed 1/min: 250.0
 Contr.-rod trav. m: 6.7...6.9
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.3)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 4.75

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 850
 Charge press. hPa : 700
 Del.quantity cm3/ : 206.0...208.0
 1000H.: (203.0...211.0)
 Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 45...53

Testing:
 1st c-rod trav.mm : 11.50
 Speed 1/min : 1035...1045
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1115...1145
 3rd c-rod trav.mm : 4.00
 Speed 1/min : 1190...1220

4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 19...27

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.0

Speed 1/min : 250

C-rod trav.mm : 6.40...6.60

C-rod trav.mm : 2.00

Speed 1/min : 630...690

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 850

C-rod trav.mm : 12.70...12.80

2nd speed 1/min : 400

C-rod trav.mm : 12.70...12.90

3rd speed 1/min : 300

C-rod trav.mm : 13.00...13.50

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600

Pressure hPa : 700

Contr.-rod trav.mm: 12.50...12.60

Measurement

Speed 1/min : 600

1st pressure hPa : -

C-rod trav.mm : 10.30...10.50

2nd pressure hPa : 340

C-rod trav.mm : 11.80...11.90

3rd pressure hPa : 260

C-rod trav.mm : 10.60...11.00

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 600

Del.quantity cm3/ : 140.0...142.0

1000H.: (137.0...145.0)

Remarks:

Cold-start testing of RSV governor
according to VDT-I-420/114.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 U7
Edition : 12.09.86
Superceeded : 4.86
Calibrating oil : ISO-4113

Combination no. : 0 401 876 301

Injection pump
Pump designation : PE6P110A72ORS441
EP type number : 0 411 816 148
Governor
Governor design. : RSV250...1200PSA509
Governor no. : 0 421 833 190

Customer-spec. information
Customer : DAF

Engine : DHS 825

1st version kW : 184.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 13.7...13.9

100H.: (13.4...14.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.0...5.2

Del.quantity cm3/ : 0.7...1.2

100H.: (0.4...1.4)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 5.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Charge press. hPa : 700

Del.quantity cm3/ : 137.0...139.0

1000H.: (134.5...141.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 54...62

Testing:

1st c-rod trav.mm : 11.20

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1310...1340

3rd c-rod trav.mm : 4.00

Speed 1/min : 1330...1360

4th speed 1/min : 1500

C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 20...28

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 4.6

Speed 1/min : 250

C-rod trav.mm : 5.00...5.20

C-rod trav.mm : 2.00

Speed 1/min : 525...585

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1000

C-rod trav.mm : 12.40...12.50

2nd speed 1/min : 400

C-rod trav.mm : 12.40...12.60

3rd speed 1/min : 300

C-rod trav.mm : 12.70...13.20

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600

Pressure hPa : 700

Contr.-rod trav.mm: 12.20...12.30

Measurement

Speed 1/min : 600

1st pressure hPa : -

C-rod trav.mm : 10.10...10.30

2nd pressure hPa : 360

C-rod trav.mm : 11.70...11.80

3rd pressure hPa : 270

C-rod trav.mm : 10.60...11.00

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 600

Del.quantity cm3/ : 92.0...94.0

1000H.: (89.5...96.5)

Remarks:

See VDT-I-420/115

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 8,3 014
 Edition : 12.09.86
 Superceeded : 9.86
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 302
 Injection pump
 Pump designation : PE6P100A72ORS447
 EP type number : 0 411 806 191
 Governor
 Governor design. : RSV250...1200P5A509
 Governor no. : 0 421 833 190

Customer-spec. information
 Customer : DAF

Engine : DHT 825

1st version kW : 162.0

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.20...3.30
 : (3.15...3.35)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 11.40...11.50

Del.quantity cm3/ : 11.8...12.0

100H.: (11.6...12.2)

Dispersion cm3/ : 0.3

100H.: (0.6)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.2...5.4

Del.quantity cm3/ : 0.8...1.2

100H.: (0.5...1.4)

Dispersion cm3/ : 0.3

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 5.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Charge press. hPa : 700

Del.quantity cm3/ : 118.5...120.5

1000H.: (116.5...122.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 54...62

Testing:

1st c-rod trav.mm : 10.40

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1300...1330

3rd c-rod trav.mm : 4.00

Speed 1/min : 1325...1355

4th speed 1/min : 1530

C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 20...28
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 4.8
Speed 1/min : 250
C-rod trav.mm : 5.20...5.40
C-rod trav.mm : 2.00
Speed 1/min : 560...620

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1000
C-rod trav.mm : 11.60...11.70
2nd speed 1/min : 400
C-rod trav.mm : 11.60...11.80
3rd speed 1/min : 300
C-rod trav.mm : 11.90...12.40

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 11.40...11.50

Measurement

Speed 1/min : 600

1st pressure hPa : -
C-rod trav.mm : 10.40...10.50
2nd pressure hPa : 315
C-rod trav.mm : 11.10...11.20
3rd pressure hPa : 225
C-rod trav.mm : 10.20...10.70

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 600
Del.quantity cm3/ : 92.5...96.5
1000H.: (90.0...99.0)

Remarks:

See VDT-I-420/115

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6K18
 Edition : 12.09.86
 Superceeded : 12.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 308
 Injection pump
 Pump designation : PE6P110A32ORS372-1
 EP type number : 0 411 816 145
 Governor
 Governor design. : RSV250...1100PSA508-
 3
 Governor no. : 0 421 833 192

Customer-spec. information
 Customer : DAF

Engine : DKTD 1160

1st version kW : 191.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 850

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 13.7...13.9

100H.: (13.4...14.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.6...6.8

Del.quantity cm3/ : 0.7...1.2

100H.: (0.4...1.4)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 4.30

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 850

Charge press. hPa : 700

Del.quantity cm3/ : 137.0...139.0

1000H.: (134.5...141.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 47...55

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1200...1230

3rd c-rod trav.mm : 4.00

Speed 1/min : 1275...1305

4th speed 1/min : 1425
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 17...25
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 6.2
Speed 1/min : 250
C-rod trav.mm : 6.60...6.80
C-rod trav.mm : 2.00
Speed 1/min : 655...715

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 850
C-rod trav.mm : 12.20...12.30
2nd speed 1/min : 400
C-rod trav.mm : 12.20...12.40
3rd speed 1/min : 300
C-rod trav.mm : 12.50...13.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 12.00...12.10

Measurement

Speed 1/min : 600

1st pressure hPa : -
C-rod trav.mm : 11.40...11.60
2nd pressure hPa : 300
C-rod trav.mm : 11.80...11.90
3rd pressure hPa : 260
C-rod trav.mm : 11.50...11.70

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 600
Del.quantity cm3/ : 128.0...130.0
1000H.: (125.5...132.5)

Remarks:

See VDT-I-420/115

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 8,3 011
Edition : 12.09.86
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 316

Injection pump
Pump designation : PE6P100A72ORS447
EP type number : 0 411 806 191
Governor
Governor design. : RSV250...1200PSA509
Governor no. : 0 421 833 199

Customer-spec. information
Customer : DAF

Engine : DHT 825

1st version kW : 162.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.20...3.30
: (3.15...3.35)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 11.40...11.50

Del.quantity cm3/ : 11.8...12.0

100H.: (11.6...12.2)

Dispersion cm3/ : 0.3

100H.: (0.6)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.2...5.4

Del.quantity cm3/ : 0.8...1.2

100H.: (0.5...1.4)

Dispersion cm3/ : 0.3

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 5.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Charge press. hPa : 700

Del.quantity cm3/ : 118.5...120.5

1000H.: (116.5...122.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 54...62

Testing:

1st c-rod trav.mm : 10.40

Speed 1/min: 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min: 1300...1330

3rd c-rod trav.mm : 4.00

Speed 1/min: 1325...1330

4th speed 1/min : 1530
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 20...28
Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 4.8

Speed 1/min : 250

C-rod trav.mm : 5.20...5.40

C-rod trav.mm : 2.00

Speed 1/min : 560...620

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1000

C-rod trav.mm : 11.60...11.70

2nd speed 1/min : 400

C-rod trav.mm : 11.60...11.80

3rd speed 1/min : 300

C-rod trav.mm : 11.90...12.40

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600

Pressure hPa : 700

Contr.-rod trav.mm: 11.40...11.50

Measurement

Speed 1/min : 600

1st pressure hPa : -

C-rod trav.mm : 10.40...10.50

2nd pressure hPa : 315

C-rod trav.mm : 11.10...11.20

3rd pressure hPa : 225

C-rod trav.mm : 10.50...10.90

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 600

Del.quantity cm3/ : 92.5...96.5

1000H.: (90.0...99.0)

Remarks:

See VDT-I-420/115

See Service-Information VDT-I-DAF 004.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 US
Edition : 12.09.86
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 317

Injection pump
Pump designation : PE6P110A72ORS441
EP type number : 0 411 816 148
Governor
Governor design. : RSV250...1200PSA509-
1
Governor no. : 0 421 833 199

Customer-spec. information
Customer : DAF

Engine : DHS 825

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 13.7...13.9
100H.: (13.4...14.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 5.0...5.2
Del.quantity cm3/ : 0.7...1.2
100H.: (0.4...1.4)
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

Governor-spring reload
Notch setting x : 5.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1000
Charge press. hPa : 700
Del.quantity cm3/ : 137.0...139.0
1000H.: (134.5...141.5)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 54...62

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1240...1250
2nd c-rod trav.mm : 4.00
Speed 1/min : 1310...1340
3rd c-rod trav.mm : 4.00
Speed 1/min : 1330...1340
4th speed 1/min : 1500
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 20...28
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 4.6
Speed 1/min : 250
C-rod trav.mm : 5.00...5.20
G-rod trav.mm : 2.00
Speed 1/min : 525...585

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1000
C-rod trav.mm : 12.40...12.50
2nd speed 1/min : 400
C-rod trav.mm : 12.40...12.60
3rd speed 1/min : 300
C-rod trav.mm : 12.70...13.20

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 12.20...12.30

Measurement

Speed 1/min : 600
1st pressure hPa : -
C-rod trav.mm : 10.10...10.30
2nd pressure hPa : 360
C-rod trav.mm : 11.70...11.80
3rd pressure hPa : 270
C-rod trav.mm : 10.60...11.00

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 600
Del.quantity cm3/ : 92.0...94.0
1000H.: (89.5...96.5)
Dispersion cm3/ : -
1000H.: (7.50)

Remarks:

See VDT-I-420/115

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11.6014
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 323
 Injection pump
 Pump designation : PE6P120A32ORS415-1
 EP type number : 0 411 826 123
 Governor
 Governor design. : RSV250...1100PSA508-
 4
 Governor no. : 0 421 833 186

Customer-spec. information
 Customer : DAF

Engine : DKV 1160

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 1 688 901 019
 Opening
 pressure, bar : 207...210
 Perforated-plate
 diameter mm : 0,8
 Test inj. tubing : 1 680 750 067
 Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000
 (A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27
 Prestroke mm : 2.80...2.90
 : (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 650
 Contr.-rod trav.mm: 11.00...11.10
 Del.quantity cm3/ : 16.7...16.9
 100H.: (16.4...17.2)
 Dispersion cm3/ : 0.5
 100H.: (0.9)
 2nd speed 1/min: 250.0
 Contr.-rod trav. m: 6.5...6.7
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.3)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 5.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 650
 Charge press. hPa : 700
 Del.quantity cm3/ : 167.0...169.0
 1000H.: (164.0...172.0)
 Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 49...57

Testing:
 1st c-rod trav.mm : 8.60
 Speed 1/min : 1135...1145
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1175...1205
 3rd c-rod trav.mm : 4.00
 Speed 1/min : 1200...1230

4th speed 1/min : 1370
C-rod trav.mm : 0.30...1.40

Remarks:
See VDT-I-420/115

LOWEST RATED SPEED I

Control-lever
position degrees: 20...28
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 5.8
Speed 1/min : 250
C-rod trav.mm : 6.20...6.40
C-rod trav.mm : 2.00
Speed 1/min : 650...710

TORQUE CONTROL

Dimension a mm : 1.60
Torque-control curve - 1st version
1st speed 1/min : 650
C-rod trav.mm : 11.20...11.30
2nd speed 1/min : 1090
C-rod trav.mm : 9.60...9.80
3rd speed 1/min : 825
C-rod trav.mm : 10.60...10.80
4th speed 1/min : 925
C-rod trav.mm : 9.90...10.20

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 11.00...11.10

Measurement

Speed 1/min : 600
1st pressure hPa : -
C-rod trav.mm : 9.80...10.00
2nd pressure hPa : 290
C-rod trav.mm : 10.70...10.90
3rd pressure hPa : 260
C-rod trav.mm : 10.30...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 1090
Del.quantity cm3/ : 147.0...151.0
1000H.: (144.0...154.0)
Charge press. hPa : -
Speed 1/min : 600
Del.quantity cm3/ : 135.0...137.0
1000H.: (132.0...140.0)

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 6,1 Q
 Edition : 20.10.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 327
 Injection pump
 Pump designation : PE6P110A32ORS499
 EP type number : 0 411 816 169
 Governor
 Governor design. : RSV325...1400P2A374-
 3
 Governor no. : 0 421 833 220
 Customer-spec. information
 Customer : VOLVO-PENTA

Engine : TAMD61A

1st version kW : 220.0

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.50...2.60
 : (2.45...2.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 10.80...10.90

Del.quantity cm3/ : 11.4...11.6

100H.: (11.1...11.9)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 325.0

Contr.-rod trav. m: 4.1...4.3

Del.quantity cm3/ : 1.1...1.5

Dispersion cm3/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 3.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Charge press. hPa : 900

Del.quantity cm3/ : 114.0...116.0

1000H.: (111.0...119.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 47...55

Testing:

1st c-rod trav.mm : 9.80

Speed 1/min : 1420...1430

2nd c-rod trav.mm : 4.00

Speed 1/min : 1455...1485

3rd c-rod trav.mm : 4.00

Speed 1/min : 1455...1485

4th speed 1/min : 1620
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20
Setting point w/out aux. spring
Speed 1/min : 325
Contr.-rod trav.mm: 3.7
Speed 1/min : 325
C-rod trav.mm : 4.10...4.30
C-rod trav.mm : 2.00
Speed 1/min : 380...440

TORQUE CONTROL

Dimension a mm : 2.80
Torque-control curve - 1st version
1st speed 1/min : 1400
C-rod trav.mm : 11.00...11.20
3rd speed 1/min : 600
C-rod trav.mm : 11.10...11.20
5th speed 1/min : 375
C-rod trav.mm : 12.30...12.90

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 10.80...10.90

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 7.80...8.00
2nd pressure hPa : 550
C-rod trav.mm : 10.50...10.60

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 1400
Del.quantity cm3/ : 118.0...122.0
1000H.: (115.0...125.0)
Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 48.0...52.0
1000H.: (45.0...55.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,7 B
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 329
 Injection pump
 Pump designation : PE6P120A32QRS500
 ER type number : 0 411 826 140
 Governor
 Governor design. : RSV250...750P7A507
 Governor no. : 0 421 833 185

Customer-spec. information
 Customer : DAF

Engine : DKZ 1160

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 700
 Contr.-rod trav.mm: 13.80...13.90

Del.quantity cm3/ : 24.2...24.4
 100H.: (23.9...24.7)

Dispersion cm3/ : 0.5
 100H.: (0.9)

2nd speed 1/min: 250.0
 Contr.-rod trav. m: 6.7...6.9
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.3)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 4.25

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 242.0...244.0
 1000H.: (239.0...247.0)
 Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 40...48

Testing:
 1st c-rod trav.mm : 12.80
 Speed 1/min : 750...755
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 780...795
 4th speed 1/min : 950
 C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 16...24
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 6.8
Speed 1/min : 250
C-rod trav.mm : 6.70...6.90
C-rod trav.mm : 2.00
Speed 1/min : 250...290

SET IDLE AUXILIARY SPRING
Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator set

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 Q 3
Edition : 22.10.86
Superceeded : 3.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 722

Injection pump
Pump designation : PE6P120A32OLS3815-10
EP type number : 0 411 826 735
Governor
Governor design. : RSV750...1150P1A820-
1
Governor no. : 0 421 833 163

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM421A

1st version kW : 184.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
(3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing^oCS: 0-45-120-165-240-285
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1130

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 16.3...16.5

100H.: (16.0...16.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 750.0

Contr.-rod trav. m: 3.6...3.8

Del.quantity cm3/ : 1.8...2.4

100H.: (1.5...2.7)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1130

Del.quantity cm3/ : 163.0...165.0

1000H.: (160.0...168.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 56...64

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00
Speed 1/min : 1185...1200
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 32...40
Setting point w/out aux. spring
Speed 1/min : 750
Contr.-rod trav.mm: 3.7
Speed 1/min : 750
C-rod trav.mm : 3.60...3.80
C-rod trav.mm : 2.00
Speed 1/min : 755...815

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 10,0 I
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 876 747
Injection pump
Pump designation : PE6P110A32ORS3162
EP type number : 0 411 816 748
Governor
Governor design. : RSV200...900P1/421
Governor no. : 0 421 833 132

Customer-spec. information
Customer : VOLVO-PENTA

Engine : TMD 100 C

1st version kW : 177.0
Speed 1/min: 1800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 15.3...15.5

100H.: (15.0...15.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.4...6.6

Del.quantity cm3/ : 1.8...2.2

100H.: (1.5...2.4)

Dispersion cm3/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 4.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 153.0...155.0

1000H.: (150.0...158.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 42...50

Testing:

1st c-rod trav.mm : 11.20

Speed 1/min : 940...950

2nd c-rod trav.mm : 4.00

Speed 1/min : 970...1000

4th speed 1/min : 1140

C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 15...23

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.0

Speed 1/min : 250

C-rod trav.mm : 6.60...6.80

C-rod trav.mm : 2.00

Speed 1/min : 330...390

Remarks:

APPLICATION

Ship

2nd c-rod trav.mm : 4.00
Speed 1/min : 1250...1270
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 26...34
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 5.0

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 4.90...5.10
C-rod trav.mm : 2.00
Speed 1/min : 400...460

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 E 7
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 751
 Injection pump
 Pump designation : PE6P120A32OLS3810-10
 EP type number : 0 411 826 734
 Governor
 Governor design. : RSV350...1150POA810-4
 Governor no. : 0 421 833 225

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM421A

1st version kW : 184.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing°CS: 0-45-120-165-240-285
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1130

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm3/ : 15.8...16.0

100H.: (15.5...16.3)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.9...5.1

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1130

Del.quantity cm3/ : 158.0...160.0

1000H.: (155.0...163.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 9.70

Speed 1/min : 1175...1185

2nd c-rod trav.mm : 4.00
Speed 1/min : 1250...1270
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 26...34
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 5.0

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 4.90...5.10
C-rod trav.mm : 2.00
Speed 1/min : 400...460

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 Q 6
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 876 752

Injection pump
Pump designation : PE6P120A32OLS3815-10
EP type number : 0 411 826 735
Governor
Governor design. : RSV750...1150P1A820-
5
Governor no. : 0 421 833 226

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM421A

1st version kW : 184.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing⁰CS: 0-45-120-165-240-285
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1130

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm3/ : 15.8...16.0

100H.: (15.5...16.3)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 750.0
Contr.-rod trav. m: 3.6...3.8
Del.quantity cm3/ : 1.8...2.4
100H.: (1.5...2.7)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1130
Del.quantity cm3/ : 158.0...160.0
1000H.: (155.0...163.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 52...60

Testing:
1st c-rod trav.mm : 9.70
Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00
Speed 1/min : 1185...1200
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 32...40
Setting point w/out aux. spring
Speed 1/min : 750
Contr.-rod trav.mm: 3.7
Speed 1/min : 750
C-rod trav.mm : 3.30...3.50

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Combine-harvester

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 40,5 H
 Edition : 06.10.86
 Superceeded : 4.86
 Calibrating oil : ISO-4113
 Combination no. : 0 401 878 134
 Injection pump
 Pump designation : PE8P130A920/5RS489
 EP type number : 0 411 838 036
 Governor
 Governor design. : RS250/1000P1A422R
 Governor no. : 0 421 821 003

Customer-spec. information
 Customer : KHD

Engine : BA16 M816

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.00...2.10
 : (1.95...2.15)
 Contr.-rod trav.mm: 9.00...12.00

E15

Cam sequence : 1- 6- 4- 5- 8- 3-
 2- 7

SD ang. spacing°CS: 0-75-90-120-210-225-
 315-345
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 600

 Contr.-rod trav.mm: 15.00...15.10

 Del.quantity cm3/ : 35.8...36.1

 100H.: (35.4...36.4)

 Dispersion cm3/ : 0.6

 100H.: (1.0)

2nd speed 1/min: 250.0
 Contr.-rod trav. m: 5.8...6.0
 Del.quantity cm3/ : 2.0...2.6
 100H.: (1.7...2.9)
 Dispersion cm3/ : 1.0
 100H.: (1.4)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 5.00

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 54...62

Testing:
 1st c-rod trav.mm : 14.00
 Speed 1/min : 1040...1050
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1105...1135
 4th speed 1/min : 1270
 C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
 position degrees: 20...28
 Setting point w/out aux. spring
 Speed 1/min : 250
 Contr.-rod trav.mm: 5.9

Speed 1/min : 250
C-rod trav.mm : 5.80...6.00
C-rod trav.mm : 2.00
Speed 1/min : 400...460

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1000
C-rod trav.mm : 15.00...15.10
2nd speed 1/min : 420
C-rod trav.mm : 16.20...16.80
3rd speed 1/min : 550
C-rod trav.mm : 15.00...15.10

Remarks:
Pump runs in tandem

Full-load delivery not known. Set
according to engine test report.

Test specifications upon request.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 40,5 G3
 Edition : 12.09.86
 Superceeded : 3.86
 Calibrating oil : ISO-4113
 Combination no. : 0 401 878 136
 Injection pump
 Pump designation : PE8P130A920/SRS489
 EP type number : 0 411 838 036
 Governor
 Governor design. : RSUV300...750POA322-
 3
 Governor no. : 0 421 829 099

Customer-spec. information
 Customer : KHD

Engine : BA16 M816

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.00...2.10
 : (1.95...2.15)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 6- 4- 5- 8- 3-
 2- 7

SD ang. spacing⁰CS: 0-75-90-120-210-225-
 315-345
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 600

 Contr.-rod trav.mm: 15.00...15.10

 Del.quantity cm3/ : 35.8...36.1

 100H.: (35.4...36.4)

 Dispersion cm3/ : 0.6

 100H.: (1.0)

2nd speed 1/min: 300.0
 Contr.-rod trav. m: 5.6...5.8
 Del.quantity cm3/ : 2.0...2.6
 100H.: (1.7...2.9)
 Dispersion cm3/ : 1.0
 100H.: (1.4)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
 Notch setting x : 4.00

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 49...57

Testing:
 1st c-rod trav.mm : 14.00
 Speed 1/min : 790...800
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 820...850
 4th speed 1/min : 980
 C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
 position degrees: 20...28
 Setting point w/out aux. spring
 Speed 1/min : 300

Contr.-rod trav.mm: 5.7
Speed 1/min : 300
C-rod trav.mm : 5.60...5.80
C-rod trav.mm : 2.00
Speed 1/min : 300...350

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 750
C-rod trav.mm : 15.00...15.10
2nd speed 1/min : 280
C-rod trav.mm : 16.20...16.80
3rd speed 1/min : 450
C-rod trav.mm : 15.00...15.10

Remarks:

Pump runs in tandem

Full-load delivery not known. Set
according to engine test report.

Test specifications upon request.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 40,5 G6
Edition : 12.09.86
Superceeded : 4.86
Calibrating oil : ISO-4113
Combination no. : 0 401 878 138
Injection pump
Pump designation : PE8P130A920/5RS489
EP type number : 0 411 838 036
Governor
Governor design. : RSUV300...750POA350-
1
Governor no. : 0 421 829 101

Customer-spec. information
Customer : KHD

Engine : BA16 M816

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025
Inlet press., bar : 1.50
Calibrating nozzle-holder
assembly : 1 688 901 019
Opening
pressure, bar : 207...210
Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067
Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27
Prestroke mm : 2.00...2.10
: (1.95...2.15)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 6- 4- 5- 8- 3-
2- 7

SD ang. spacing°CS: 0-75-90-120-210-225-
315-345
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 600
Contr.-rod trav.mm: 15.00...15.10
Del.quantity cm3/ : 35.8...36.1
100H.: (35.4...36.4)
Dispersion cm3/ : 0.6
100H.: (1.0)
2nd speed 1/min: 300.0
Contr.-rod trav. m: 5.6...5.8
Del.quantity cm3/ : 2.0...2.6
100H.: (1.7...2.9)
Dispersion cm3/ : 1.0
100H.: (1.4)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
Notch setting x : 4.00

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 49...57

Testing:
1st c-rod trav.mm : 14.00
Speed 1/min : 790...800
2nd c-rod trav.mm : 4.00
Speed 1/min : 830...860
4th speed 1/min : 980
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 20...28
Setting point w/out aux. spring
Speed 1/min : 300

Contr.-rod trav.mm: 5.2
Speed 1/min : 300
C-rod trav.mm : 5.60...5.80
C-rod trav.mm : 2.00
Speed 1/min : 320...380

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 750
C-rod trav.mm : 15.00...15.10
2nd speed 1/min : 280
C-rod trav.mm : 16.20...16.80
3rd speed 1/min : 450
C-rod trav.mm : 15.00...15.10

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 15.00...15.10

Measurement

Speed 1/min : 500

1st pressure hPa : 450
C-rod trav.mm : 14.50...14.60
2nd pressure hPa : -
C-rod trav.mm : 14.00...14.10

Remarks:

Pump runs in t~~est~~

Full-load delivery not known. Set
according to engine test report.

Test specifications upon request.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,6 S
Edition : 28.10.86
Superceeded : 5.85
Calibrating oil : ISO-4113
Combination no. : 0 401 878 704
Injection pump
Pump designation : PE8P110A32OLS3802-10
EP type number : 0 411 818 710
Governor
Governor design. : RSV650...1150POA820-
2
Governor no. : 0 421 833 170
Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM422

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
(3.95...4.15)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 8- 7- 2- 6- 3- 5-
4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
270-315
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1100
Contr.-rod trav.mm: 11.50...11.60
Del.quantity cm3/ : 13.1...13.3
100H.: (12.8...13.5)
Dispersion cm3/ : 0.4
100H.: (0.8)
2nd speed 1/min: 650.0
Contr.-rod trav. m: 4.8...5.0
Del.quantity cm3/ : 1.2...1.8
100H.: (0.9...2.0)
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 131.0...133.0
1000H.: (128.5...135.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:
1st c-rod trav.mm : 10.50
Speed 1/min : 1160...1170
2nd c-rod trav.mm : 4.00
Speed 1/min : 1190...1210
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 23...31

Setting point w/out aux. spring

Speed 1/min : 650

Contr.-rod trav.mm: 4.9

Testing:

Speed 1/min : 100

C-rod trav.mm min : 19.50

Speed 1/min : 650

C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14.6 T
Edition : 28.10.86
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 401 878 705

Injection pump
Pump designation : PE8P110A32OLS3813-10
EP type number : 0 411 818 712
Governor
Governor design. : RSV350...1150POA810-
2

Governer no. : 0 421 833 206

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM422

1st version kW : 206.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

E23

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
SD ang. spacing°CS: 270-315
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1130

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 13.1...13.3
100H.: (12.8...13.5)

Dispersion cm3/ : 0.4
100H.: (0.8)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 7.7...7.9
Del.quantity cm3/ : 1.4...1.8
100H.: (1.1...2.0)
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...1.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1130
Del.quantity cm3/ : 131.0...133.0
1000H.: (128.5...135.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 50...58

Testing:
1st c-rod trav.mm : 10.70
Speed 1/min : 1175...1185
2nd c-rod trav.mm : 4.00

Speed 1/min : 1235...1265
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 22...30
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 7.1

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 7.00...7.20

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 110.0...114.0
1000H.: (107.0...117.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,6 P 2
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 878 708
 Injection pump
 Pump designation : PE8P120A32OLS3816-10
 EP type number : 0 411 828 715
 Governor
 Governor design. : RSV450...1150POA823-
 1
 Governor no. : 0 421 833 243

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM422A

1st version kW : 243.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 1130

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 15.8...16.0

100H.: (15.5...16.3)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 450.0

Contr.-rod trav. m: 4.4...5.6

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1130

Del.quantity cm3/ : 158.0...160.0

1000H.: (155.0...163.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 38...46

Testing:

1st c-rod trav.mm : 10.00
Speed 1/min : 1160...1170
2nd c-rod trav.mm : 4.00
Speed 1/min : 1185...1200
4th speed 1/min : 1400
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 450
Contr.-rod trav.mm: 4.5

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 450
C-rod trav.mm : 4.40...4.70
C-rod trav.mm : 2.00
Speed 1/min : 450...520

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 160.0...164.0
1000H.: (157.0...167.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

Speed 1/min : 780...793
3rd c-rod trav.mm : 0.00...1.40
Speed 1/min : 1000
4th speed 1/min : 1000
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 12...16
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 8.6

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 8.50...8.70

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

SWITCH-OVER POINT

Speed 1/min : 270 (290)

Remarks:
APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 J
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 879 701

Injection pump
Pump designation : PE10P120A320LS3831
EP type number : 0 411 829 705
Governor
Governor design. : RSV350...750POA824-8
Governor no. : 0 421 833 234

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 A

1st version kW : 282.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
 216-261-288-333

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 17.3...17.5

100H.: (17.0...17.8)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 2.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 173.0...175.0

1000H.: (170.0...178.0)

Dispersion cm3/ : 5.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 26...34

Testing:

1st c-rod trav.mm : 10.30
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 775...788
4th speed 1/min : 900
C-rod trav.mm : 0.30...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.9
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18.3 J 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 879 702

Injection pump
Pump designation : PE10P120A32OLS3831
EP type number : 0 411 829 705
Governor
Governor design. : RSV350...750POA824-9
Governor no. : 0 421 833 235

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423 LA

1st version kW : 309.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
 216-261-288-333
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 19.0...19.2

100H.: (18.7...19.5)

Dispersion cm3/ : 0.5

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 190.0...192.0

1000H.: (187.0...195.0)

Dispersion cm3/ : 5.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 27...35

Testing:

1st c-rod trav.mm : 10.70

Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 775...788
4th speed 1/min : 900
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: -
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.9
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 18,3 I 2
Edition : 28.10.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 879 704

Injection pump
Pump designation : PE10P110A32OLS3818-11
EP type number : 0 411 819 706
Governor
Governor design. : RSV450...1150POA823-3
Governor no. : 0 421 833 245

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 423

1st version kW : 261.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 130...150

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

F05

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 10- 9- 4- 1- 8- 7
 - 6- 3- 5- 2

SD ang. spacing°CS: 0-45-72-117-144-189-
 216-261-288-333
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 10

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 12.6...12.8
100H.: (12.3...13.0)

Dispersion cm3/ : 0.4
100H.: (0.8)

2nd speed 1/min: 450.0
Contr.-rod trav. m: 7.3...7.6
Del.quantity cm3/ : 1.2...2.0
100H.: (0.9...2.2)
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
Notch setting x : 3.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Del.quantity cm3/ : 126.0...128.0
1000H.: (123.5...130.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1165...1175
2nd c-rod trav.mm : 4.00
Speed 1/min : 1210...1225
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26
Setting point w/out aux. spring
Speed 1/min : 450
Contr.-rod trav.mm: 7.4

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 450
C-rod trav.mm : 7.30...7.60

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 106.0...112.0
1000H.: (103.0...115.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A17
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 041
Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQV300...1100PA671-3
Governor no. : 0 421 813 502

Customer-spec. information
Customer : MAN

Engine : D2866LFZ/290

1st version kW : 213.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

F07

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 10.30...10.40

Del.quantity cm3/ : 18.3...18.5

100H.: (18.0...18.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.50...1.70

2nd speed 1/min: 850

Sleeve travel mm: 5.70...6.00

3rd speed 1/min: 1100

Sleeve travel mm: 8.00...8.20

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 183.0...185.0

1000H.: (180.0...188.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 62...70

Testing:

1st c-rod trav.mm : 8.70

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1205...1235

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.40

Speed 1/min : 300

C-rod trav.mm : 4.80...5.00

C-rod trav.mm : 2.00

Speed 1/min : 375...435

TORQUE CONTROL

Dimension a mm : 0.65

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 10.30...10.40

2nd speed 1/min : 1100

C-rod trav.mm : 9.70...9.80

3rd speed 1/min : 850

C-rod trav.mm : 10.10...10.20

4th speed 1/min : 925

C-rod trav.mm : 9.80...10.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 10.30...10.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 160

C-rod trav.mm : 9.80...10.20

SWITCH-OVER POINT

Speed 1/min : 220 (240)

F08

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 178.0...182.0

1000H.: (175.0...185.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 174.0...180.0

1000H.: (171.0...183.0)

Charge press. hPa : 160

Speed 1/min : 500

Del.quantity cm3/ : 157.0...169.0

1000H.: (154.0...172.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 132.0...134.0

1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7734

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A18
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 042
Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQV300...1100PA671-4
Governor no. : 0 421 813 503

Customer-spec. information
Customer : MAN

Engine : D2866LFZ/330

1st version kW : 243.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 30...32

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 20.7...20.9

100H.: (20.4...21.2)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.40...1.60

2nd speed 1/min: 850

Sleeve travel mm: 5.60...5.90

3rd speed 1/min: 1100

Sleeve travel mm: 7.70...7.90

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 207.0...209.0

1000H.: (204.0...212.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 62...70

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1210...1240

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 380...440

TORQUE CONTROL

Dimension a mm : 0.80

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 11.30...11.40

2nd speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

3rd speed 1/min : 850

C-rod trav.mm : 11.00...11.20

4th speed 1/min : 975

C-rod trav.mm : 10.70...11.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 280

C-rod trav.mm : 10.50...10.90

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 203.0...207.0

1000H.: (200.0...210.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 208.0...214.0

1000H.: (205.0...217.0)

Charge press. hPa : 280

Speed 1/min : 500

Del.quantity cm3/ : 184.0...196.0

1000H.: (181.0...199.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 132.0...134.0

1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7733

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A15
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 036 043

Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQ300/1100PA658-18
Governor no. : 0 421 801 322

Customer-spec. information
Customer : MAN

Engine : D2866LFZ/290

1st version kW : 213.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 10.30...10.40

Del.quantity cm3/ : 18.3...18.5

100H.: (18.0...18.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 4.8...5.0
Del.quantity cm3/ : 1.2...1.8
100H.: (0.9...2.1)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Speed 1/min: 600
Cont.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 750
Charge press. hPa : 1000
Del.quantity cm3/ : 183.0...185.0
1000H.: (180.0...188.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 20.0

Testing:
1st c-rod trav.mm : 8.70
Speed 1/min : 1145...1160
2nd c-rod trav.mm : 4.00
Speed 1/min : 1180...1210
4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 4.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.40
Speed 1/min : 300
C-rod trav.mm : 4.80...5.00
C-rod trav.mm : 2.00
Speed 1/min : 340...380

TORQUE CONTROL

Dimension a mm : 0.40
Torque-control curve - 1st version
1st speed 1/min : 750
C-rod trav.mm : 10.60...10.70
2nd speed 1/min : 1100
C-rod trav.mm : 9.70...9.80
3rd speed 1/min : 875
C-rod trav.mm : 10.40...10.60
4th speed 1/min : 950
C-rod trav.mm : 9.90...10.20

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 10.30...10.40

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 8.90...9.10
2nd pressure hPa : 85
C-rod trav.mm : 9.30...9.40
3rd pressure hPa : 160
C-rod trav.mm : 9.80...10.20

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 1000
Speed 1/min : 1100
Del.quantity cm3/ : 178.0...182.0
1000H.: (175.0...185.0)
Charge press. hPa : 1000
Speed 1/min : 650
Del.quantity cm3/ : 174.0...180.0
1000H.: (171.0...183.0)

Charge press. hPa : 160
Speed 1/min : 500
Del.quantity cm3/ : 157.0...169.0
1000H.: (154.0...172.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 132.0...134.0
1000H.: (129.0...137.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A13
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 036 044

Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQ300/1100PA658-19
Governor no. : 0 421 801 323

Customer-spec. information
Customer : MAN

Engine : D2866LFZ/330

1st version kW : 243.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm³/ : 20.7...20.9

100H.: (20.4...21.2)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.6...4.8

Del.quantity cm³/ : 1.2...1.8
100H.: (0.9...2.1)

Dispersion cm³/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm³/ : 207.0...209.0
1000H.: (204.0...212.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1185...1215

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 4.7

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.20

Speed 1/min : 300

C-rod trav.mm : 4.60...4.80

C-rod trav.mm : 2.00

Speed 1/min : 340...380

TORQUE CONTROL

Dimension a mm : 0.50

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 11.80...11.90

2nd speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

3rd speed 1/min : 875

C-rod trav.mm : 11.60...11.80

4th speed 1/min : 950

C-rod trav.mm : 11.00...11.30

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 280

C-rod trav.mm : 10.50...10.90

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm³/ : 203.0...207.0
1000H.: (200.0...210.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 208.0...214.0
1000H.: (205.0...217.0)
Charge press. hPa : 280
Speed 1/min : 500
Del.quantity cm3/ : 184.0...196.0
1000H.: (181.0...199.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 132.0...134.0
1000H.: (129.0...137.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A11
Edition : 07.11.86
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 402 036 048

Injection pump
Pump designation : PES6P120A720/3LS470-
3
EP type number : 0 412 026 051
Governor
Governor design. : RQV250...1100PA707
Governor no. : 0 421 813 440

Customer-spec. information
Customer : MAN

Engine : D2866KUL

1st version kW : 265.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 12.70...12.80

Del.quantity cm3/ : 23.0...23.2

100H.: (22.7...23.5)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.4...5.6

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.70...2.00

2nd speed 1/min: 850

Sleeve travel mm: 6.00...6.20

3rd speed 1/min: 1100

Sleeve travel mm: 8.20...8.30

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 230.0...232.0

1000H.: (227.0...235.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 10.90

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1235...1265

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.50

Speed 1/min : 250

C-rod trav.mm : 5.90...6.10

C-rod trav.mm : 2.00

Speed 1/min : 390...450

TORQUE CONTROL

Dimension a mm : 0.80

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 12.70...12.80

2nd speed 1/min : 1100

C-rod trav.mm : 11.90...12.00

3rd speed 1/min : 935

C-rod trav.mm : 12.50...12.70

4th speed 1/min : 1010

C-rod trav.mm : 12.00...12.30

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 12.70...12.80

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.50...9.70

2nd pressure hPa : 130

C-rod trav.mm : 9.90...10.10

3rd pressure hPa : 400

C-rod trav.mm : 11.10...11.50

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 218.0...224.0

1000H.: (215.0...227.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 231.0...237.0

1000H.: (228.0...240.0)

Charge press. hPa : 400

Speed 1/min : 500

Del.quantity cm3/ : 179.0...191.0

1000H.: (176.0...194.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 128.0...130.0

1000H.: (125.0...133.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 A7
Edition : 12.09.86
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 402 036 050

Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQ300/1100PA684
Governor no. : 0 421 801 229

Customer-spec. information
Customer : MAN

Engine : D2866KF/K

1st version kW : 265.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm3/ : 23.8...24.0

100H.: (23.5...24.3)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 238.0...240.0

1000H.: (235.0...243.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1180...1210

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 4.8

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 345...405

TORQUE CONTROL

Dimension a mm : 0.55

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 12.60...12.80

2nd speed 1/min : 1100

C-rod trav.mm : 11.30...11.40

3rd speed 1/min : 935

C-rod trav.mm : 12.00...12.30

4th speed 1/min : 990

C-rod trav.mm : 11.60...11.90

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 12.50...12.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.30...9.50

2nd pressure hPa : 120

C-rod trav.mm : 9.60...9.70

3rd pressure hPa : 400

C-rod trav.mm : 11.00...11.40

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 214.0...218.0

1000H.: (211.0...221.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 239.0...245.0
1000H.: (236.0...248.0)
Charge press. hPa : 400
Speed 1/min : 500
Del.quantity cm3/ : 188.0...200.0
1000H.: (185.0...203.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 139.0...141.0
1000H.: (136.0...144.0)

Remarks:

: MAN-NR. 2-7598

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A25
Edition : 10.12.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 036 050

Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQ300/1100PA684-3
Governor no. : 0 421 801 356

Customer-spec. information
Customer : MAN

Engine : D2866KF/K

1st version kW : 265.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm3/ : 23.8...24.0

100H.: (23.5...24.3)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 238.0...240.0

1000H.: (235.0...243.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1180...1210

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 4.8

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 345...405

TORQUE CONTROL

Dimension a mm : 0.55

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 12.60...12.80

2nd speed 1/min : 1100

C-rod trav.mm : 11.30...11.40

3rd speed 1/min : 935

C-rod trav.mm : 12.10...12.40

4th speed 1/min : 990

C-rod trav.mm : 11.70...12.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 12.50...12.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.30...9.50

2nd pressure hPa : 120

C-rod trav.mm : 9.60...9.70

3rd pressure hPa : 400

C-rod trav.mm : 11.00...11.40

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 214.0...218.0

1000H.: (211.0...221.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 239.0...245.0
1000H.: (236.0...248.0)
Charge press. hPa : 400
Speed 1/min : 500
Del.quantity cm3/ : 188.0...200.0
1000H.: (185.0...203.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 139.0...141.0
1000H.: (136.0...144.0)

Remarks:

: MAN-NR. 2-7598

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A23
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 051
Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQV300...1100PA700-3
Governor no. : 0 421 813 547

Customer-spec. information
Customer : MAN

Engine : D2866KF/K

1st version kW : 265.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 075

Outside diameter
x Wall thickness
x Length mm : 8.00x2.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm³/ : 23.8...24.0

100H.: (23.5...24.3)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm³/ : 1.2...1.8
100H.: (0.9...2.1)

Dispersion cm³/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.70...2.00

2nd speed 1/min: 850

Sleeve travel mm: 6.00...6.20

3rd speed 1/min: 1100

Sleeve travel mm: 8.10...8.30

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm³/ : 238.0...240.0
1000H.: (235.0...243.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 64...72

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1225...1255

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 8...16

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 360...420

TORQUE CONTROL

Dimension a mm : 1.15

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 12.50...12.60

2nd speed 1/min : 1100

C-rod trav.mm : 11.30...11.40

3rd speed 1/min : 900

C-rod trav.mm : 12.10...12.30

4th speed 1/min : 1000

C-rod trav.mm : 11.50...11.80

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 12.50...12.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.30...9.50

2nd pressure hPa : 400

C-rod trav.mm : 11.10...11.20

3rd pressure hPa : 240

C-rod trav.mm : 10.20...10.60

SWITCH-OVER POINT

Speed 1/min : 200 (200)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del. quantity cm³/ : 213.0...219.0

1000H.: (210.0...222.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del. quantity cm³/ : 239.0...245.0

1000H.: (236.0...248.0)

Charge press. hPa : 400

Speed 1/min : 500

Del. quantity cm³/ : 191.0...197.0

1000H.: (188.0...200.0)

Charge press. hPa : -

Speed 1/min : 500

Del. quantity cm³/ : 139.0...141.0

1000H.: (136.0...144.0)

Remarks:

: MAN-NR. 2-7694

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 G2
Edition : 12.09.86
Superceeded : 12.85
Calibrating oil : ISO-4113

Combination no. : 0 402 036 054

Injection pump
Pump designation : PES6P110A720/3LS477-
2

EP type number : 0 412 016 071
Governor
Governor design. : RQ250/1100PA685-1
Governor no. : 0 421 801 285

Customer-spec. information
Customer : MAN

Engine : D2866UH/200

1st version kW : 147.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 10.50...10.60

Del.quantity cm3/ : 9.1...9.4

100H.: (8.8...9.6)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.1...6.3

Del.quantity cm3/ : 1.5...2.0

100H.: (1.2...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Del.quantity cm3/ : 91.0...94.0

1000H.: (88.5...96.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1200...1230

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.2

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.70

Speed 1/min : 250

C-rod trav.mm : 6.10...6.30

C-rod trav.mm : 2.00

Speed 1/min : 370...410

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

2nd speed 1/min : 500

C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1100

Del.quantity cm3/ : 103.0...107.0

1000H.: (100.0...110.0)

Speed 1/min : 500

Del.quantity cm3/ : 80.0...84.0

1000H.: (77.0...87.0)

Remarks:

: MAN-NR. 2-7740

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 G3
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 056
Injection pump
Pump designation : PES6P110A720LS477
EP type number : 0 412 016 066
Governor
Governor design. : RQ250/1100PA685
Governor no. : 0 421 801 227

Customer-spec. information
Customer : MAN

Engine : D2566UH/240

1st version kW : 177.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 12.3...12.6

100H.: (12.0...12.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.0...6.2

Del.quantity cm3/ : 1.5...2.0

100H.: (1.2...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Del.quantity cm3/ : 123.0...126.0

1000H.: (120.5...128.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 10.70

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1210...1240

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.1

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.60

Speed 1/min : 250

C-rod trav.mm : 6.00...6.20

C-rod trav.mm : 2.00

Speed 1/min : 370...410

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 11.70...11.80

2nd speed 1/min : 500

C-rod trav.mm : 11.70...11.90

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1100

Del.quantity cm3/ : 127.0...133.0

1000H.: (124.0...136.0)

Speed 1/min : 500

Del.quantity cm3/ : 113.0...119.0

1000H.: (110.0...122.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A21
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 057
Injection pump
Pump designation : PES6P120A720/3LS470-2
EP type number : 0 412 026 050
Governor
Governor design. : RQV300...1100PA700-1
Governor no. : 0 421 813 528

Customer-spec. information
Customer : MAN

Engine : D2866LF

1st version kW : 243.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

G07

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 20.7...20.9

100H.: (20.4...21.2)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.40...1.60

2nd speed 1/min: 850

Sleeve travel mm: 5.60...5.90

3rd speed 1/min: 1100

Sleeve travel mm: 7.70...7.90

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 207.0...209.0

1000H.: (204.0...212.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 60...68

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1215...1245

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 380...440

TORQUE CONTROL

Dimension a mm : 0.80

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 11.30...11.40

2nd speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

3rd speed 1/min : 850

C-rod trav.mm : 11.00...11.20

4th speed 1/min : 975

C-rod trav.mm : 10.70...11.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 280

C-rod trav.mm : 10.50...10.90

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 203.0...207.0

1000H.: (200.0...210.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 208.0...214.0

1000H.: (205.0...217.0)

Charge press. hPa : 280

Speed 1/min : 500

Del.quantity cm3/ : 184.0...196.0

1000H.: (181.0...199.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 132.0...134.0

1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7757

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A19
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 058
Injection pump
Pump designation : PES6P120A720/3LS470-
2
EP type number : 0 412 026 050
Governor
Governor design. : RQ300/1100PA684-1
Governor no. : 0 421 801 344

Customer-spec. information
Customer : MAN

Engine : D2866LF

1st version kW : 243.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 20.7...20.9

100H.: (20.4...21.2)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 600

Cont.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 207.0...209.0

1000H.: (204.0...212.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1185...1215

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 4.8

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 340...380

TORQUE CONTROL

Dimension a mm : 0.50

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 11.70...12.00

2nd speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

3rd speed 1/min : 875

C-rod trav.mm : 11.60...11.80

4th speed 1/min : 950

C-rod trav.mm : 11.00...11.30

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 280

C-rod trav.mm : 10.50...10.90

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 203.0...207.0

1000H.: (200.0...210.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 208.0...214.0
1000H.: (205.0...217.0)
Charge press. hPa : 280
Speed 1/min : 500
Del.quantity cm3/ : 184.0...196.0
1000H.: (181.0...199.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 132.0...134.0
1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7756

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A16
 Edition : 12.09.86
 Superseded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 036 059
 Injection pump
 Pump designation : PES6P120A720/3LS470-
 2
 EP type number : 0 412 026 050
 Governor
 Governor design. : RQV300...1100PA669-1
 Governor no. : 0 421 813 534

Customer-spec. information
 Customer : MAN

Engine : D2866KUHk

1st version kW : 265.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm³/ : 23.8...24.0

100H.: (23.5...24.3)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.2...5.4

Del.quantity cm³/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm³/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.70...2.00

2nd speed 1/min: 850

Sleeve travel mm: 6.00...6.20

3rd speed 1/min: 1100

Sleeve travel mm: 8.10...8.30

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm³/ : 238.0...240.0

1000H.: (235.0...243.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1225...1255

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.80

Speed 1/min : 300

C-rod trav.mm : 5.20...5.40

C-rod trav.mm : 2.00

Speed 1/min : 360...420

TORQUE CONTROL

Dimension a mm : 1.15

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 12.50...12.60

2nd speed 1/min : 1100

C-rod trav.mm : 11.30...11.40

3rd speed 1/min : 900

C-rod trav.mm : 12.10...12.30

4th speed 1/min : 1000

C-rod trav.mm : 11.50...11.80

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 12.50...12.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.30...9.40

2nd pressure hPa : 400

C-rod trav.mm : 11.10...11.20

3rd pressure hPa : 140

C-rod trav.mm : 9.60...9.90

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm³/ : 213.0...219.0

1000H.: (210.0...222.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm³/ : 239.0...245.0

1000H.: (236.0...248.0)

Charge press. hPa : 400

Speed 1/min : 500

Del.quantity cm³/ : 191.0...197.0

1000H.: (188.0...200.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm³/ : 139.0...141.0

1000H.: (136.0...144.0)

Remarks:

: MAN-NR. 2-7650

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A20
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 036 060
 Injection pump
 Pump designation : PES6P120A720/3LS470-
 2
 EP type number : 0 412 026 050
 Governor
 Governor design. : RQ300/1100PA684-2
 Governor no. : 0 421 801 344

Customer-spec. information
 Customer : MAN

Engine : D2866LFZ/290

1st version kW : 213.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 30...32

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 10.30...10.40

Del.quantity cm3/ : 18.3...18.5

100H.: (18.0...18.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 4.8...5.0
Del.quantity cm3/ : 1.2...1.8
100H.: (0.9...2.1)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Speed 1/min: 600
Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 750
Charge press. hPa : 1000
Del.quantity cm3/ : 183.0...185.0
1000H.: (180.0...188.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 8.70
Speed 1/min : 1145...1160
2nd c-rod trav.mm : 4.00
Speed 1/min : 1180...1210
4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 4.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.40
Speed 1/min : 300
C-rod trav.mm : 4.80...5.00
C-rod trav.mm : 2.00
Speed 1/min : 340...380

TORQUE CONTROL

Dimension a mm : 0.40
Torque-control curve - 1st version
1st speed 1/min : 750
C-rod trav.mm : 10.60...10.70
2nd speed 1/min : 1100
C-rod trav.mm : 9.70...9.80
3rd speed 1/min : 875
C-rod trav.mm : 10.40...10.70
4th speed 1/min : 950
C-rod trav.mm : 9.90...10.20

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 10.30...10.40

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 8.90...9.10
2nd pressure hPa : 85
C-rod trav.mm : 9.30...9.40
3rd pressure hPa : 160
C-rod trav.mm : 9.80...10.20

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 1000
Speed 1/min : 1100
Del.quantity cm3/ : 178.0...182.0
1000H.: (175.0...185.0)
Charge press. hPa : 1000
Speed 1/min : 650
Del.quantity cm3/ : 174.0...180.0
1000H.: (171.0...183.0)

Charge press. hPa : 160
Speed 1/min : 500
Del. quantity cm3/ : 157.0...169.0
1000H.: (154.0...172.0)
Charge press. hPa : -
Speed 1/min : 500
Del. quantity cm3/ : 132.0...134.0
1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7760

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A22
 Edition : 12.09.86
 Superseded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 036 061
 Injection pump
 Pump designation : PES6P120A720/3LS470-
 2
 EP type number : 0 412 026 050
 Governor
 Governor design. : RQV300...1100PA700-2
 Governor no. : 0 421 813 543

Customer-spec. information
 Customer : MAN

Engine : D2866LFZ/290

1st version kW : 213.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 30...32

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 10.30...10.40

Del.quantity cm3/ : 18.3...18.5

100H.: (18.0...18.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.50...1.70

2nd speed 1/min: 850

Sleeve travel mm: 5.70...6.00

3rd speed 1/min: 1100

Sleeve travel mm: 8.00...8.20

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm3/ : 183.0...185.0

1000H.: (180.0...188.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 62...70

Testing:

1st c-rod trav.mm : 8.70

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1205...1235

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.40

Speed 1/min : 300

C-rod trav.mm : 4.80...5.00

C-rod trav.mm : 2.00

Speed 1/min : 375...435

TORQUE CONTROL

Dimension a mm : 0.65

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 10.30...10.40

2nd speed 1/min : 1100

C-rod trav.mm : 9.70...9.80

3rd speed 1/min : 850

C-rod trav.mm : 10.10...10.20

4th speed 1/min : 925

C-rod trav.mm : 9.80...10.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 10.30...10.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 160

C-rod trav.mm : 9.80...10.20

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm3/ : 178.0...182.0

1000H.: (175.0...185.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 174.0...180.0

1000H.: (171.0...183.0)

Charge press. hPa : 160

Speed 1/min : 500

Del.quantity cm3/ : 157.0...169.0

1000H.: (154.0...172.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 132.0...134.0

1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7761

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9A24
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 036 062
 Injection pump
 Pump designation : PES6P120A720/3LS470-
 2
 EP type number : 0 412 026 050
 Governor
 Governor design. : RQ300/1100PA813
 Governor no. : 0 421 801 358

Customer-spec. information
 Customer : MAN

Engine : D2866LF

1st version kW : 243.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 750

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm³/ : 20.7...20.9

100H.: (20.4...21.2)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm³/ : 1.2...1.8

100H.: (0.9...2.1)

Dispersion cm³/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 750

Charge press. hPa : 1000

Del.quantity cm³/ : 207.0...209.0

1000H.: (204.0...212.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1180...1210

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 4.8

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.30

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

C-rod trav.mm : 2.00

Speed 1/min : 340...380

TORQUE CONTROL

Dimension a mm : 0.50

Torque-control curve - 1st version

1st speed 1/min : 750

C-rod trav.mm : 11.70...12.00

2nd speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

3rd speed 1/min : 900

C-rod trav.mm : 11.50...11.70

4th speed 1/min : 975

C-rod trav.mm : 10.70...11.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.90...9.10

2nd pressure hPa : 85

C-rod trav.mm : 9.30...9.40

3rd pressure hPa : 280

C-rod trav.mm : 10.65...10.90

SWITCH-OVER POINT

Speed 1/min : 190 (210)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1100

Del.quantity cm³/ : 203.0...207.0

1000H.: (200.0...210.0)

Charge press. hPa : 1000

Speed 1/min : 650

Del.quantity cm3/ : 208.0...214.0
1000H.: (205.0...217.0)
Charge press. hPa : 380
Speed 1/min : 500
Del.quantity cm3/ : 184.0...196.0
1000H.: (181.0...199.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 132.0...134.0
1000H.: (129.0...137.0)

Remarks:

: MAN-NR. 2-7823

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 G5
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 036 063
 Injection pump
 Pump designation : PES6P110A720/3LS477-
 2
 EP type number : 0 412 016 071
 Governor
 Governor design. : RQ250/1100PA817
 Governor no. : 0 421 801 359

Customer-spec. information
 Customer : MAN

Engine : D2566F/UH

1st version kW : 177.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 12.3...12.6

100H.: (12.0...12.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.0...6.2

Del.quantity cm3/ : 1.5...2.0

100H.: (1.2...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Del.quantity cm3/ : 123.0...126.0

1000H.: (120.5...128.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 10.70

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1215...1245

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.1

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.60

Speed 1/min : 250

C-rod trav.mm : 6.00...6.20

C-rod trav.mm : 2.00

Speed 1/min : 320...360

TORQUE CONTROL

Dimension a mm : -

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 11.60...11.80

2nd speed 1/min : 500

C-rod trav.mm : 11.70...11.90

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1100

Del.quantity cm3/ : 127.0...133.0

1000H.: (124.0...136.0)

Speed 1/min : 500

Del.quantity cm3/ : 115.0...121.0

1000H.: (112.0...124.0)

Remarks:

: MAN-NR. 2-7693

APPLICATION

Omnibus

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 G6
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 036 064
Injection pump
Pump designation : PES6P110A720/3LS477-
2
EP type number : 0 412 016 071
Governor
Governor design. : RQ250/1100PA817-1
Governor no. : 0 421 801 362

Customer-spec. information
Customer : MAN

Engine : D2866UH/200

1st version kW : 150.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 10.50...10.60

Del.quantity cm3/ : 9.1...9.4

100H.: (8.8...9.6)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.1...6.3

Del.quantity cm3/ : 1.5...2.0

100H.: (1.2...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: 45...47

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Del.quantity cm3/ : 91.0...94.0

1000H.: (88.5...96.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1200...1230

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.2

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.70

Speed 1/min : 250

C-rod trav.mm : 6.10...6.30

C-rod trav.mm : 2.00

Speed 1/min : 320...360

TORQUE CONTROL

Dimension a mm : -

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 10.50...10.60

2nd speed 1/min : 500

C-rod trav.mm : 10.50...10.70

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1100

Del.quantity cm3/ : 103.0...107.0

1000H.: (100.0...110.0)

Speed 1/min : 500

Del.quantity cm3/ : 80.0...84.0

1000H.: (77.0...87.0)

Remarks:

APPLICATION

Omnibus

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 B2
 Edition : 14.11.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 036 067
 Injection pump
 Pump designation : PES6P110A720/3LS477-
 2
 EP type number : 0 412 016 071
 Governor
 Governor design. : RQV300...1100PA846
 Governor no. : 0 421 813 593

Customer-spec. information
 Customer : MAN

Engine : D2866 F

1st version kW : 177.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.50...3.60
 : (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 12.3...12.6

100H.: (12.0...12.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.9...6.1

Del.quantity cm3/ : 1.5...2.0

100H.: (1.2...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.10...1.30

2nd speed 1/min: 450

Sleeve travel mm: 2.90...3.30

3rd speed 1/min: 900

Sleeve travel mm: 5.80...6.20

4th speed 1/min: 1100

Sleeve travel mm: 7.50...7.70

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1170

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Del.quantity cm3/ : 123.0...126.0

1000H.: (120.5...128.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 114...122

Setting point:
Speed 1/min : 1170
Contr.-rod trav.mm: 16.5

Testing:
1st c-rod trav.mm : 10.70
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1240...1270
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 82...90
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 6.0

Testing:
Speed 1/min : 100
C-rod trav.mm min : 7.50
Speed 1/min : 300
C-rod trav.mm : 5.90...6.10

CONSTANT REGULATION
Speed 1/min : 305...460

SWITCH-OVER POINT
Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS
Speed 1/min : 1100
Del.quantity cm3/ : 127.0...133.0
1000H.: (124.0...136.0)
Speed 1/min : 500
Del.quantity cm3/ : 115.0...121.0
1000H.: (112.0...124.0)

Remarks:
: MAN-NR. 2-7822

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 7.6

Testing:

Speed 1/min : 100

C-rod trav.mm min : 9.60

Speed 1/min : 300

C-rod trav.mm : 7.50...7.70

C-rod trav.mm : 2.00

Speed 1/min : 370...410

Remarks:

APPLICATION

Omnibus

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 12,0 C
Edition : 12.09.86
Superceeded : 7.84
Calibrating oil : ISO-4113
Combination no. : 0 402 046 219
Injection pump
Pump designation : PES6P120A32ORS426
EP type number : 0 412 026 039
Governor
Governor design. : RQV250...1100PA570
Governor no. : 0 421 813 295

Customer-spec. information
Customer : RVI

Engine : MIDS 063540

1st version kW : 195.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

START OF DELIVERY DIFFERENCE

betw.c-rod trav.mm: 10.00...11.00

BASIC SETTING

1st speed 1/mi: 650

Del.quantity cm3/ : 17.9...18.1

100H.: (17.6...18.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.8...6.0

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.4)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.50...1.60

2nd speed 1/min: 800

Sleeve travel mm: 4.70...4.90

3rd speed 1/min: 1100

Sleeve travel mm: 6.80...7.00

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1270

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 650

Charge press. hPa : 700

Del.quantity cm3/ : 179.0...181.0

1000H.: (176.0...184.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 57...65

Testing:

1st c-rod trav.mm : 8.00

Speed 1/min : 1145...1155

2nd c-rod trav.mm : 4.00

Speed 1/min : 1220...1250

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 200

C-rod trav.mm min : 5.80

Speed 1/min : 250

C-rod trav.mm : 4.30...4.50

CONSTANT REGULATION

Speed 1/min : 275...400

TORQUE CONTROL

Dimension a mm : 1.20

Torque-control curve - 1st version

1st speed 1/min : 650

C-rod trav.mm : 10.30...10.40

2nd speed 1/min : 1100

C-rod trav.mm : 8.90...9.10

3rd speed 1/min : 1020

C-rod trav.mm : 9.30...9.40

4th speed 1/min : 890

C-rod trav.mm : 9.80...10.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 10.30...10.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.30...8.5000

2nd pressure hPa : 290

C-rod trav.mm : 9.90...10.00

3rd pressure hPa : 235

C-rod trav.mm : 8.90...9.10

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 1100

Del.quantity cm3/ : 162.0...168.0

1000H.: (159.0...171.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 119.0...121.0

1000H.: (116.0...124.0)

Remarks:

Start-of-delivery mark 12° cam angle
after start of delivery cyl. 1.

1st version
Control-lever
position degrees: 57...65

Testing:
1st c-rod trav.mm : 7.40
Speed 1/min : 1235...1245
2nd c-rod trav.mm : 4.00
Speed 1/min : 1295...1325
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 6...14

Testing:
Speed 1/min : 100
C-rod trav.mm min : 4.80
Speed 1/min : 300
C-rod trav.mm : 3.00...3.20
C-rod trav.mm : 2.00
Speed 1/min : 305...365

TORQUE CONTROL
Dimension a mm : ?
Torque-control curve - 1st version
1st speed 1/min : 1150
C-rod trav.mm : 8.40...8.50
2nd speed 1/min : 750
C-rod trav.mm : 7.40...7.50
3rd speed 1/min : 500
C-rod trav.mm : 6.80...7.10
4th speed 1/min : 350
C-rod trav.mm : 6.50...6.90

SWITCH-OVER POINT
Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS
Speed 1/min : 750
Del.quantity cm3/ : 120.0...126.0
1000H.: (117.0...129.0)
Speed 1/min : 500
Del.quantity cm3/ : 67.0...73.0
1000H.: (64.0...76.0)

Remarks:
Start-of-delivery mark 10.5° cam angle
after start of delivery cyl. 1

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,4 E4
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 046 268
 Injection pump
 Pump designation : PES6P110A720LS455
 EP type number : 0 412 016 061
 Governor
 Governor design. : RQ750PA662
 Governor no. : 0 421 801 209

Customer-spec. information
 Customer : MAN

Engine : D2566 MTE

1st version kW : 147.0
 Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

H08

Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm3/ : 15.5...15.8

100H.: (15.2...16.0)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.7...6.9

Del.quantity cm3/ : 1.1...1.6

100H.: (0.8...1.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 155.0...158.0

1000H.: (152.5...160.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Testing:

1st c-rod trav.mm : 11.50

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 781...794

4th speed 1/min : 900

C-rod trav.mm : 0.00...1.00

Remarks:
 APPLICATION

Generator set

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,4 ES
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 046 271
Injection pump
Pump designation : PES6P110A72OLS455
EP type number : 0 412 016 061
Governor
Governor design. : RQV250...1100PA667
Governor no. : 0 421 813 378

Customer-spec. information
Customer : MAN

Engine : D2566 MTE

1st version kW : 206.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
: (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.10...12.20

Del.quantity cm3/ : 14.7...14.9

100H.: (14.4...15.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.8...7.0

Del.quantity cm3/ : 1.0...1.6

100H.: (0.7...1.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1100

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Del.quantity cm3/ : 147.0...149.0

1000H.: (144.0...152.0)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 43...51

Testing:

1st c-rod trav.mm : 11.10

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1195...1225

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.40

Speed 1/min : 250

C-rod trav.mm : 6.80...7.00

C-rod trav.mm : 2.00

Speed 1/min : 345...405

SWITCH-OVER POINT

Speed 1/min : 180 (0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,4 L 7
Edition : 23.09.86
Superceeded : 7.83
Calibrating oil : ISO-4113
Combination no. : 0 402 046 290
Injection pump
Pump designation : PES6P110A820LS442
EP type number : 0 412 016 060
Governor
Governor design. : RQ300/1100PA681-1
Governor no. : 0 421 801 236

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 407 H

1st version kW : 177.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.20...3.30
: (3.15...3.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 12.5...12.7

100H.: (12.2...13.0)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.7...7.9

Del.quantity cm3/ : 1.3...1.9

100H.: (1.0...2.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 13.00...14.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Del.quantity cm3/ : 125.0...127.0

1000H.: (122.0...130.0)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 13.5

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1130...1140

2nd c-rod trav.mm : 4.00

Speed 1/min : 1165...1195

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 7.8

Testing:

Speed 1/min : 100

C-rod trav.mm min : 9.40

Speed 1/min : 300

C-rod trav.mm : 7.70...7.90

C-rod trav.mm : 2.00

Speed 1/min : 365...405

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 107.0...111.0

1000H.: (107.0...117.0)

Dispersion cm3/ : -

1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 B
 Edition : 12.09.86
 Superceeded : 10.85
 Calibrating oil : ISO-4113
 Combination no. : 0 402 046 325
 Injection pump
 Pump designation : PES6P110A720LS477-1
 EP type number : 0 412 016 069
 Governor
 Governor design. : RQV300...1100PA667-1
 Governor no. : 0 421 813 512

Customer-spec. information
 Customer : MAN

Engine : D28866E

1st version kW : 177.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 12.3...12.6
 100H.: (12.0...12.8)

Dispersion cm3/ : 0.4
 100H.: (0.7)

2nd speed 1/min: 300.0
 Contr.-rod trav. m: 6.1...6.3
 Del.quantity cm3/ : 1.5...2.0
 100H.: (1.2...2.2)
 Dispersion cm3/ : 0.4
 100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
 Sleeve travel mm: 1.20...1.40
 2nd speed 1/min: 500
 Sleeve travel mm: 3.30...3.60
 3rd speed 1/min: 900
 Sleeve travel mm: 5.90...6.60
 4th speed 1/min: 1100
 Sleeve travel mm: 7.50...7.80

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1180
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 800
 Del.quantity cm3/ : 123.0...126.0
 1000H.: (120.5...128.5)
 Dispersion cm3/ : 4.00
 1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 49...57

Testing:
1st c-rod trav.mm : 11.20
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1250...1280
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 13...21

Testing:
Speed 1/min : 100
C-rod trav.mm min : 7.70
Speed 1/min : 300
C-rod trav.mm : 6.10...6.30

CONSTANT REGULATION
Speed 1/min : 330...435

SWITCH-OVER POINT
Speed 1/min : 240 (260)

FUEL-DELIVERY CHARACTERISTICS
Speed 1/min : 1100
Del.quantity cm3/ : 131.0...137.0
1000H.: (128.0...140.0)
Speed 1/min : 500
Del.quantity cm3/ : 117.0...123.0
1000H.: (114.0...126.0)

Remarks:
: MAN-NR. 2-7681

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet	: RVI 9,8 A 7
Edition	: 07.11.86
Superceeded	: -
Calibrating oil	: ISO-4113
Combination no.	: 0 402 046 330
Injection pump	
Pump designation	: PES6P120A32ORS419-2
EP type number	: 0 412 026 048
Governor	
Governor design.	: RQ275/1050PA844
Governer no.	: 0 421 801 379

Customer-spec. information
Customer : RVI

Engine : MIPS062045B

1st version kW : 176.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0.8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values

START OF DELIVERY

Test pressure, bar: 25...27

```

Prestroke mm      : 2.80...2.90
                  : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence      : 1- 5- 3- 6- 2- 4

```

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + -^o: 0.50 (0.75)

START OF DELIVERY DIFFERENCE

betw.c-rod trav.mm: 10.00...11.00

BASIC SETTING

1st speed 1/mi: 1050

Del. quantity cm3/ : 16.1...13.6
100H.: (15.8...13.9)

Dispersion cm³/ : 0.5
 100H.: (0.9)

```

2nd speed      1/min: 275.0
Contr.-rod trav. m: 5.5...5.7
Del.quantity   cm3/ : 1.7...2.3
                100H.: (1.4...2.6)
Dispersion     cm3/ : 0.8
                100H.: (1.2)

```

SLEEVE POSITION

Control-lever position
Degree: 45...47
Speed 1/min: 600
Cont.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 700
Del.quantity cm3/ : 161.0...136.0
1000H.: (158.0...139.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 20.0

```

Testing:
1st c-rod trav.mm : 8.20
  Speed    1/min : 1110...1120
2nd c-rod trav.mm : 4.00
  Speed    1/min : 1170...1200

```


4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 275
Contr.-rod trav.mm: 5.6

Testing:

Speed 1/min : 200
C-rod trav.mm min : 5.50
Speed 1/min : 275
C-rod trav.mm : 3.50...3.70
C-rod trav.mm : 2.00
Speed 1/min : 300...340

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 9.70...9.80
2nd speed 1/min : 700
C-rod trav.mm : 9.70...9.90

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 9.20...9.30

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 8.20...8.30
2nd pressure hPa : 260
C-rod trav.mm : 8.90...9.00
3rd pressure hPa : 230
C-rod trav.mm : 8.40...8.60

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 700
Del.quantity cm3/ : 149.0...155.0
1000H.: (146.0...158.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 103.0...105.0
1000H.: (100.0...108.0)

Remarks:

Start-of-delivery mark 9.5° cam angle
after start of delivery cyl. 1

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,4 I 7
Edition : 12.09.86
Superceeded : 4.85
Calibrating oil : ISO-4113

Combination no. : 0 402 046 724

Injection pump
Pump designation : PES6P120A82OLS3077-10
EP type number : 0 412 026 714
Governor
Governor design. : RQV300...1100PA601-2
Governor no. : 0 421 813 428

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM407A

1st version kW : 206.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 16.5...16.7
100H.: (16.2...17.0)

Dispersion cm3/ : 0.5
100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 5.0...5.2
Del.quantity cm3/ : 1.4...2.0
100H.: (1.1...2.3)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1100
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Charge press. hPa : 700
Del.quantity cm3/ : 165.0...167.0
1000H.: (-)
Dispersion cm3/ : 5.00
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 59...67

Testing:
1st c-rod trav.mm : 10.00

Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1190...1220
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 7...15

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 300
C-rod trav.mm : 4.80...5.00

CONSTANT REGULATION

Speed 1/min : 330...440

TORQUE CONTROL

Dimension a mm : -
Torque-control curve - 1st version
1st speed 1/min : 1100
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 600
C-rod trav.mm : 11.70...11.80

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 10,2...10,4

Measurement

Speed 1/min : 500
1st pressure hPa : 280
C-rod trav.mm : 10,6...10,7
2nd pressure hPa : 350
C-rod trav.mm : 11,2...11,4

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 178.5...181.5
1000H.: (-)
Dispersion cm3/ : 8.00
1000H.: (-)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 144.0...146.0
1000H.: (-)

Dispersion cm3/ : 8.00
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : UNI 9,6 A 2
Edition : 12.09.86
Superceeded : 6.84
Calibrating oil : ISO-4113

Combination no. : 0 402 046 748

Injection pump
Pump designation : PES6P110A72ORS3105
EP type number : 0 412 016 713
Governor
Governor design. : RQ275/1150PA711
Governor no. : 0 421 801 255

Customer-spec. information
Customer : IVECO-UNIC

Engine : 8220-22.709

1st version kW : 177.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.20...3.30
: (3.15...3.35)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm3/ : 11.4...11.7

100H.: (11.1...11.9)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 5.9...6.1

Del.quantity cm3/ : 1.5...2.0

100H.: (1.2...2.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -2

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 114.0...117.0

1000H.: (111.5...119.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1195...1210

2nd c-rod trav.mm : 4.00

Speed 1/min : 1245...1275

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

H22

Speed 1/min : 275

Contr.-rod trav.mm: 6.0

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.50

Speed 1/min : 275

C-rod trav.mm : 5.90...6.10

C-rod trav.mm : 2.00

Speed 1/min : 350...390

TORQUE CONTROL

Dimension a mm : -

Torque-control curve - 1st version

1st speed 1/min : 1150

C-rod trav.mm : 11.30...11.40

2nd speed 1/min : 600

C-rod trav.mm : 11.30...11.50

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 11.30...11.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.00...10.20

2nd pressure hPa : 260

C-rod trav.mm : 10.90...11.00

3rd pressure hPa : 200

C-rod trav.mm : 10.30...10.50

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 400

Del.quantity cm3/ : 75.0...78.0

1000H.: (72.5...80.5)

Remarks:

APPLICATION

Omnibus

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 9,6 N
Edition : 23.09.86
Superceeded : 7.86
Calibrating oil : ISO-4113

Combination no. : 0 402 046 759

Injection pump
Pump designation : PES6P110A720RS3104
EP type number : 0 412 016 712
Governor
Governor design. : RQ900PA738
Governor no. : 0 421 801 278

Customer-spec. information
Customer : KHD

Engine : BF6L413FR/C

1st version kW : 161.0
Speed 1/min: 1800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.50...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 850

Contr.-rod trav.mm: 12.60...12.70

Del.quantity cm3/ : 14.7...14.9

100H.: (14.4...15.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.7...6.9

Del.quantity cm3/ : 1.3...1.9

100H.: (1.0...2.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 850

Del.quantity cm3/ : 147.0...149.0

1000H.: (144.0...152.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 37...45

Testing:

1st c-rod trav.mm : 11.60

Speed 1/min : 900...905

2nd c-rod trav.mm : 5.50

Speed 1/min : 936...945

4th speed 1/min : 1050

C-rod trav.mm : 0.00...1.00

SWITCH-OVER POINT

Speed 1/min : 750 (0)

Generator set

Remarks:
APPLICATION

H25

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : UNI 9,5 A 1
 Edition : 12.09.86
 Superseded : 10.85
 Calibrating oil : ISO-4113
 Combination no. : 0 402 046 760
 Injection pump
 Pump designation : PES6P110A720RS3140
 EP type number : 0 412 016 716
 Governor
 Governor design. : RQV275...1150PA501-3
 Governor no. : 0 421 813 471

Customer-spec. information
 Customer : IVECO-UNIC

Engine : 8460.21.002

1st version kW : 177.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.20...3.30
 : (3.15...3.35)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.10...11.20

Del.quantity cm3/ : 13.8...14.1

100H.: (13.5...14.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 6.8...7.0

Del.quantity cm3/ : 2.2...2.7

100H.: (1.9...2.0)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.00...1.20

2nd speed 1/min: 400

Sleeve travel mm: 2.70...3.00

3rd speed 1/min: 850

Sleeve travel mm: 5.00...5.20

4th speed 1/min: 1150

Sleeve travel mm: 7.30...7.50

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1260

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 138.0...141.0

1000H.: (135.5...143.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 60...68

Testing:
1st c-rod trav.mm : 10.10
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1275...1305
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 11...19

Testing:
Speed 1/min : 100
C-rod trav.mm min : 8.40
Speed 1/min : 275
C-rod trav.mm : 6.80...7.00

CONSTANT REGULATION
Speed 1/min : 275...520

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.10...11.20

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.00...10.10
2nd pressure hPa : 240
C-rod trav.mm : 10.80...10.90
3rd pressure hPa : 210
C-rod trav.mm : 10.20...10.40

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 500
Del. quantity cm³/ : 105.0...108.0
1000h.: (102.5...110.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 9,6 Q
Edition : 12.09.86
Superceeded : 11.85
Calibrating oil : ISO-4113
Combination no. : 0 402 046 761
Injection pump
Pump designation : PES6P110A72ORS3104
EP type number : 0 412 016 712
Governor
Governor design. : RQV300...1150PA549-2
Governor no. : 0 421 813 491

Customer-spec. information
Customer : KHD

Engine : BF6L413FRC

1st version kW : 220.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1150
Contr.-rod trav.mm: 14.40...14.50
Del.quantity cm3/ : 16.9...17.1
 100H.: (16.6...17.4)
Dispersion cm3/ : 0.4
 100H.: (0.7)
2nd speed 1/min: 300.0
Contr.-rod trav. m: 7.8...8.0
Del.quantity cm3/ : 1.6...2.2
 100H.: (1.3...2.4)
Dispersion cm3/ : 0.4
 100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.10...1.20
2nd speed 1/min: 390
Sleeve travel mm: 2.30...2.70
3rd speed 1/min: 460
Sleeve travel mm: 2.80...3.20
4th speed 1/min: 1200
Sleeve travel mm: 8.20...8.30
5th speed 1/min: 1340
Sleeve travel mm: 9.60...9.90

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1225
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Charge press. hPa : 900
Del.quantity cm3/ : 169.0...171.0
 100H.: (166.0...174.0)
Dispersion cm3/ : 4.00
 100H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 51...59

Remarks:

Testing:

1st c-rod trav.mm : 13.40

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1320...1350

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Testing:

Speed 1/min : 100

C-rod trav.mm min : 9.30

Speed 1/min : 300

C-rod trav.mm : 7.80...8.00

CONSTANT REGULATION

Speed 1/min : 300...490

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 450

Pressure hPa : 900

Contr.-rod trav.mm: 14.40...14.50

Measurement

Speed 1/min : 450

1st pressure hPa : -

C-rod trav.mm : 12.50...12.60

2nd pressure hPa : 500

C-rod trav.mm : 13.90...14.00

3rd pressure hPa : 360

C-rod trav.mm : 12.70...12.90

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 600

Del.quantity cm3/ : 171.0...175.0

1000H.: (168.0...178.0)

Charge press. hPa : -

Speed 1/min : 450

Del.quantity cm3/ : 123.0...125.0

1000H.: (120.0...128.0)

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,7 A 6
Edition : 22.10.86
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 402 046 767

Injection pump
Pump designation : PES6P110A820LS3131
EP type number : 0 412 016 715
Governor
Governor design. : RQ300/1100PA786
Governor no. : 0 421 801 336

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM427H

1st version kW : 150.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. l/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.30...4.40
 : (4.25...4.45)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 9.60...9.70

Del.quantity cm3/ : 11.4...11.6

100H.: (11.1...11.8)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 7.2...7.4
Del.quantity cm3/ : 1.4...2.0
100H.: (1.1...2.2)
Dispersion cm3/ : 0.4
100H.: (0.8)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 600
Contr.-rod travelmm: 13.00...14.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 114.0...116.0
1000H.: (111.5...118.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 600
Contr.-rod trav.mm: 13.5

Testing:
1st c-rod trav.mm : 8.60
Speed 1/min : 1140...1155
2nd c-rod trav.mm : 4.00
Speed 1/min : 1200...1230
4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 7.3

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.80
Speed 1/min : 300
C-rod trav.mm : 7.20...7.40
C-rod trav.mm : 2.00
Speed 1/min : 360...400

TORQUE CONTROL

Dimension a mm : 0.50
Torque-control curve - 1st version
1st speed 1/min : 1100
C-rod trav.mm : 9.60...9.70
2nd speed 1/min : 600
C-rod trav.mm : 10.30...10.60

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 98.0...101.0
1000H.: (95.0...104.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,7 A 7
 Edition : 22.10.86
 Superceeded : 10.85
 Calibrating oil : ISO-4113
 Combination no. : 0 402 046 768
 Injection pump
 Pump designation : PES6P110A82QLS3131
 EP type number : 0 412 016 715
 Governor
 Governor design. : RQ300/1100PA789
 Governer no. : 0 421 801 338

Customer-spec. information
 Customer : DB

Engine : OM427H

1st version kW : 150.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.30...4.40
 : (4.25...4.45)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 9.60...9.70

Del.quantity cm3/ : 11.4...11.6

100H.: (11.1...11.8)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.2...7.4

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Cont.-rod travelmm: 13.00...14.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Del.quantity cm3/ : 114.0...116.0

1000H.: (111.5...118.5)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 13.5

Testing:

1st c-rod trav.mm : 8.60

Speed 1/min : 1140...1155

2nd c-rod trav.mm : 4.00

Speed 1/min : 1200...1230

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 7.3

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.80

Speed 1/min : 300

C-rod trav.mm : 7.20...7.40

C-rod trav.mm : 2.00

Speed 1/min : 360...400

TORQUE CONTROL

Dimension a mm : 0.50

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 9.60...9.70

2nd speed 1/min : 600

C-rod trav.mm : 10.30...10.50

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 98.0...101.0

1000H.: (95.0...104.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

Remarks:

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 47...55

Testing:

1st c-rod trav.mm : 10.10

Speed 1/min : 1090...1100

2nd c-rod trav.mm : 4.00

Speed 1/min : 1185...1215

4th speed 1/min : 1350

C-rod trav.mm : 4.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 13...21

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.50

Speed 1/min : 300

C-rod trav.mm : 5.90...6.10

CONSTANT REGULATION

Speed 1/min : 330...445

SWITCH-OVER POINT

Speed 1/min : 220 (240)

Remarks:

: MAN-NR. 2-7663

APPLICATION

Ship

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MAN 11,9 I
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 046 771
Injection pump
Pump designation : PES6P120A72OLS3169
EP type number : 0 412 026 721
Governor
Governor design. : RQ750PA661-2
Governor no. : 0 421 801 343

Customer-spec. information
Customer : MAN

Engine : D2866TE

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 075

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.80...3.90
: (3.75...3.95)

Contr.-rod trav.mm: 9.00...12.00

J09

Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.70...13.80

Del.quantity cm3/ : 22.5...22.7

100H.: (22.2...23.0)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.9...7.1

Del.quantity cm3/ : 2.4...3.0

100H.: (2.1...3.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 225.0...227.0

1000H.: (222.0...230.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Testing:

1st c-rod trav.mm : 12,7

Speed 1/min : 750...755

2nd c-rod trav.mm : 4,0

Speed 1/min : 784...797

4th speed 1/min : 950

C-rod trav.mm : 0...1,0

Remarks:

: MAN-NR. 1-7660

APPLICATION

Generator set

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ROL 12,2 H
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 046 772

Injection pump
Pump designation : PES6P120A32ORS3170
EP type number : 0 412 026 722
Governor
Governor design. : RQV250...1050PA794
Governor no. : 0 421 813 530

Customer-spec. information
Customer : ROLLS ROYCE

Engine : EAGLE LE

1st version kW : 204.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values ----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 4- 2- 6- 3- 5

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 13.10...13.20

Del.quantity cm3/ : 21.9...22.1

100H.: (21.6...22.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 5.9...6.1
Del.quantity cm3/ : 1.7...2.3
100H.: (1.4...2.6)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1000
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 900
Del.quantity cm3/ : 219.0...221.0
1000H.: (216.0...224.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 62...70

Testing:
1st c-rod trav.mm : 12.10
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 4.00
Speed 1/min : 1200...1230
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20

Testing:
Speed 1/min : 100
C-rod trav.mm min : 7.40
Speed 1/min : 250
C-rod trav.mm : 5.90...6.10

CONSTANT REGULATION

Speed 1/min : 250...400

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 500
Del.quantity cm3/ : 207.0...213.0
1000H.: (204.0...216.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ROL 12,2 H1
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 046 772
 Injection pump
 Pump designation : PES6P120A32ORS3170
 EP type number : 0 412 026 722
 Governor
 Governor design. : RQV250...950PA794-1
 Governor no. : 0 421 813 579

Customer-spec. information
 Customer : ROLLS ROYCE

Engine : EAGLE LE

1st version kW : 204.0
 Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 4- 2- 6- 3- 5

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 13.10...13.20

Del.quantity cm3/ : 21.9...22.1

100H.: (21.6...22.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.9...6.1

Del.quantity cm3/ : 1.7...2.3

100H.: (1.4...2.6)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1000

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 900

Del.quantity cm3/ : 219.0...221.0

1000H.: (216.0...224.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 12.10

Speed 1/min : 990...1000

2nd c-rod trav.mm : 4.00

Speed 1/min : 1100...1130

4th speed 1/min : 1250

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.40
Speed 1/min : 250
C-rod trav.mm : 5.90...6.10

CONSTANT REGULATION

Speed 1/min : 250...400

SWITCH-OVER POINT

Speed 1/min : 170 (190)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 500
Del.quantity cm³/ : 207.0...213.0
1000H.: (204.0...216.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 9,6 T
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 046 774
Injection pump
Pump designation : PES6P110A72ORS3104
EP type number : 0 412 016 712
Governor
Governor design. : RQV300...1150PA801
Governor no. : 0 421 813 537

Customer-spec. information
Customer : KHD

Engine : BF6L513R

1st version kW : 177.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 13.40...13.50

Del.quantity cm3/ : 15.1...15.3

100H.: (14.8...15.6)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.9...8.1

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.4)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 390

Sleeve travel mm: 2.40...2.70

3rd speed 1/min: 460

Sleeve travel mm: 2.80...3.20

4th speed 1/min: 1190

Sleeve travel mm: 8.40...8.50

5th speed 1/min: 1290

Sleeve travel mm: 9.40...9.70

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1190

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 900

Del.quantity cm3/ : 151.0...153.0

1000H.: (148.0...156.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 51...59

Remarks:

Testing:

1st c-rod trav.mm : 12.40

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1310...1340

4th speed 1/min : 1400

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Testing:

Speed 1/min : 100

C-rod trav.mm min : 9.40

Speed 1/min : 300

C-rod trav.mm : 7.90...8.10

CONSTANT REGULATION

Speed 1/min : 320...480

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 450

Pressure hPa : 900

Contr.-rod trav.mm: 13.40...13.50

Measurement

Speed 1/min : 450

1st pressure hPa : -

C-rod trav.mm : 12.50...12.70

2nd pressure hPa : 420

C-rod trav.mm : 13.20...13.30

3rd pressure hPa : 360

C-rod trav.mm : 12.70...12.90

SWITCH-OVER POINT

Speed 1/min : 250 (270)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 600

Del.quantity cm3/ : 153.0...157.0

1000H.: (150.0...160.0)

Charge press. hPa : -

Speed 1/min : 450

Del.quantity cm3/ : 123.0...125.0

1000H.: (120.0...128.0)

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,7 A10
Edition : 31.10.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 046 775
Injection pump
Pump designation : PES6P110A820LS3131
EP type number : 0 412 016 715
Governor
Governor design. : RQ300/1100PA786-1
Governor no. : 0 421 801 353

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM427H

1st version kW : 177.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.30...4.40
 : (4.25...4.45)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 13.9...14.1

100H.: (13.6...14.3)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.2...7.4

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.4

100H.: (0.8)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 550

Contr.-rod travelmm: 13.00...14.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Del.quantity cm3/ : 139.0...141.0

1000H.: (136.5...143.5)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 550

Contr.-rod trav.mm: 13.5

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1140...1155

2nd c-rod trav.mm : 4.00

Speed 1/min : 1200...1230

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 7.3

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.80

Speed 1/min : 300

C-rod trav.mm : 7.20...7.40

C-rod trav.mm : 2.00

Speed 1/min : 380...420

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 116.0...119.0

1000H.: (113.0...122.0)

Dispersion cm3/ : -

1000H.: (9.00)

Remarks:

APPLICATION

Omnibus

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet	: MAN 11 9 H
Edition	: 12.09.86
Superceeded	: -
Calibrating oil	: ISO-4113
Combination no.	: 0 402 046 777
Injection pump	
Pump designation	: PES6P120A720LS3167
EP type number	: 0 412 026 720
Governor	
Governor design.	: RQ750PA661-4
Governer no.	: 0 421 801 361

Customer-spec. information
Customer : MAN

Engine : D2866TE

1st version kW : 190.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0.8

Test inj. tubing : 1 680 750 075

Outside diameter
x Wall thickness
x Length mm : 8.00x2.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values

START OF DELIVERY
Test pressure, bar: 25...27

```

Prestroke mm      : 3.80...3.90
                  : (3.75...3.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence      : 6- 2- 4- 1- 5- 3

```

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + -^o: 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.70...13.80

Del.quantity cm³/ : 23.1...23.3

100H.: (22.8...23.6)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.9...7.1

Del.quantity cm3/ : 2.4...3.0
100H.: (2.1...3.3)

Dispersion cm³/ : 0.8
100H.: (1.2)

FULL-LOAD DELIV. AT FULL-LOAD STOP

```

1st version
Speed      1/min: 700
Del.quantity cm3/ : 231.0...233.0
              1000H.: (228.0...236.0)
Dispersion cm3/ : 5.00
              1000H.: (9.00)

```

HIGHEST RATED SPEED

```

Testing:
1st c-rod trav.mm : 12.70
Speed      1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed      1/min : 784...797
4th speed  1/min : 950
C-rod trav.mm : 0.00...1.00

```

Remarks: : MAN-NR. 2-7775

APPLICATION

Generator set

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : UNI 9,5 B
 Edition : 22.10.86
 Superseded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 046 782
 Injection pump
 Pump designation : PES6P110A72ORS3140
 EP type number : 0 412 016 716
 Governor
 Governor design. : RQV275...1150PA841
 Governor no. : 0 421 813 586

Customer-spec. information
 Customer : IVECO-UNIC

Engine : 8460.21.002

1st version kW : 177.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 3.20...3.30
 : (3.15...3.35)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

St ang. spacing°CS: 0-60-120-180-~40-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.10...11.20

Del.quantity cm3/ : 13.8...14.1

100H.: (13.5...14.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 6.8...7.0

Del.quantity cm3/ : 2.2...2.7

100H.: (1.9...2.9)

Dispersion cm3/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.00...1.20

2nd speed 1/min: 400

Sleeve travel mm: 2.70...3.00

3rd speed 1/min: 850

Sleeve travel mm: 5.00...5.20

4th speed 1/min: 1150

Sleeve travel mm: 7.30...7.50

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1260

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 138.0...141.0

1000H.: (135.5...143.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 60...68

Omnibus

Testing:
1st c-rod trav.mm : 10.10
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1275...1305
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 11...19

Testing:
Speed 1/min : 100
C-rod trav.mm min : 8.40
Speed 1/min : 275
C-rod trav.mm : 6.80...7.00

CONSTANT REGULATION
Speed 1/min : 275...520

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.10...11.20

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.00...10.10
2nd pressure hPa : 240
C-rod trav.mm : 10.80...10.90
3rd pressure hPa : 210
C-rod trav.mm : 10.20...10.40

SWITCH-OVER POINT
Speed 1/min : 210 (230)

FUEL-DELIVERY CHARACTERISTICS
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 105.0...108.0
1000h.: (102.5...110.5)

APPLICATION

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 14.9 C1
Edition : 12.09.86
Superceeded : 9.84
Calibrating oil : ISO-4113

Combination no. : 0 402 048 043

Injection pump
Pump designation : PES8P120A32ORS466
EP type number : 0 412 028 022
Governor
Governor design. : RQV275...1050PA665-1
Governer no. : 0 421 813 468

Customer-spec. information
Customer : RVI

Engine : MIVSO83530

1st version kW : 280.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1= 8= 4= 2= 7= 3=
6= 5

SD ang. spacing°CS: 0-45-90-135-180-225-
270-315

Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Del.quantity cm3/ : 18.5...18.7

100H.: (18.2...19.0)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 6.2...6.4

Del.quantity cm3/ : 1.7...2.3

100H.: (1.4...2.6)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.40...1.60

2nd speed 1/min: 450

Sleeve travel mm: 3.40...3.80

3rd speed 1/min: 800

Sleeve travel mm: 5.80...6.00

4th speed 1/min: 1050

Sleeve travel mm: 7.60...7.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1140

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Charge press. hPa : 700

Del.quantity cm3/ : 185.0...187.0

1000H.: (182.0...190.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 60...68

Testing:

1st c-rod trav.mm : 8.40

Speed 1/min : 1105...1115

2nd c-rod trav.mm : 4.00

Speed 1/min : 1175...1205

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 200

C-rod trav.mm min : 5.00

Speed 1/min : 275

C-rod trav.mm : 3.00...3.20

CONSTANT REGULATION

Speed 1/min : 280...400

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 9.40...9.50

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 7.60...7.80

2nd pressure hPa : 150

C-rod trav.mm : 9.00...9.10

3rd pressure hPa : 110

C-rod trav.mm : 8.00...8.20

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 650

Del.quantity cm3/ : 168.0...174.0

1000H.: (165.0...177.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 116.0...118.0

1000H.: (113.0...121.0)

Remarks:

Start-of-delivery mark 13° cam angle
after start of delivery cyl. 1.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 14,9 F
Edition : 25.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 048 044
Injection pump
Pump designation : PES8P120A32ORS507
EP type number : 0 412 028 023
Governor
Governor design. : RQV275...1050PA665-1
Governor no. : 0 421 813 468

Customer-spec. information
Customer : RVI

Engine : MIVR083530C

1st version kW : 280.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 8- 4- 2- 7- 3-
 6- 5

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Del.quantity cm3/ : 18.2...18.4

100H.: (17.9...18.7)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 6.2...6.4

Del.quantity cm3/ : 1.7...2.3

100H.: (1.4...2.6)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.40...1.60

2nd speed 1/min: 450

Sleeve travel mm: 3.40...3.80

3rd speed 1/min: 800

Sleeve travel mm: 5.80...6.00

4th speed 1/min: 1050

Sleeve travel mm: 7.60...7.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1140

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Charge press. hPa : 700

Del.quantity cm3/ : 182.0...184.0

1000H.: (179.0...187.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1105...1115

2nd c-rod trav.mm : 4.00

Speed 1/min : 1195...1225

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 200

C-rod trav.mm min : 6.40

Speed 1/min : 275

C-rod trav.mm : 4.60...4.80

CONSTANT REGULATION

Speed 1/min : 280...405

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 11.00...11.10

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.40...9.50

2nd pressure hPa : 150

C-rod trav.mm : 10.60...10.70

3rd pressure hPa : 110

C-rod trav.mm : 9.80...10.00

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 650

Del.quantity cm3/ : 165.0...171.0

1000H.: (162.0...174.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 116.0...118.0

1000H.: (113.0...121.0)

Remarks:

Start-of-delivery mark 13° cam angle
after start of delivery cyl. 1.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 14,9 D
Edition : 12.09.86
Superceeded : 4.85
Calibrating oil : ISO-4113

Combination no. : 0 402 048 702

Injection pump
Pump designation : PES8P120A320RS3146
EP type number : 0 412 028 702
Governor
Governor design. : RQ275/950PA753
Governor no. : 0 421 801 282

Customer-spec. information
Customer : RVI

Engine : MIVR083530

1st version kW : 294.0
Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 8- 4- 2- 7- 3-
 6- 5

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 500

Del.quantity cm3/ : 20.8...21.0

100H.: (20.5...21.3)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0
Contr.-rod trav. m: 7.9...8.1
Del.quantity cm3/ : 1.7...2.3
100H.: (1.4...2.6)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: 45...47
Speed 1/min: 950
Contr.-rod travelmm: 16.60...18.20

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 500
Charge press. hPa : 700
Del.quantity cm3/ : 208.0...210.0
1000H.: (205.0...213.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 950
Contr.-rod trav.mm: 17.4

Testing:
1st c-rod trav.mm : 10.50
Speed 1/min : 1000...1015
2nd c-rod trav.mm : 4.50
Speed 1/min : 1070...1100
4th speed 1/min : 1250
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 275

Contr.-rod trav.mm: 8.0

Testing:

Speed 1/min : 200

C-rod trav.mm min : 6.70

Speed 1/min : 275

C-rod trav.mm : 4.60...4.80

C-rod trav.mm : 2.00

Speed 1/min : 330...370

TORQUE CONTROL

Dimension a mm : 0.58

Torque-control curve - 1st version

1st speed 1/min : 500

C-rod trav.mm : 12.70...12.80

2nd speed 1/min : 950

C-rod trav.mm : 11.40...11.50

3rd speed 1/min : 675

C-rod trav.mm : 12.40...12.60

4th speed 1/min : 810

C-rod trav.mm : 11.70...12.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 12.70...12.80

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.50...9.70

2nd pressure hPa : 360

C-rod trav.mm : 12.10...12.20

3rd pressure hPa : 140

C-rod trav.mm : 10.30...10.70

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 950

Del.quantity cm3/ : 190.0...194.0

1000H.: (187.0...197.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 119.0...121.0

1000H.: (116.0...124.0)

Remarks:

Start-of-delivery mark 11.5° cam angle
after start of delivery cyl. 1

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 14,9 G
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 048 703

Injection pump
Pump designation : PES8P120A320RS3175
EP type number : 0 412 028 703
Governor
Governor design. : RQ750PA804
Governor no. : 0 421 801 351

Customer-spec. information
Customer : RVI

Engine : MIVS (R) 083530

1st version kW : 320.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 8- 4- 2- 7- 3-
 6- 5

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 700

Del.quantity cm3/ : 27.9...28.1

100H.: (27.6...28.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 7.0...7.2

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.4)

Dispersion cm3/ : 0.8

100H.: (1.2)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 279.0...281.0

1000H.: (276.0...284.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Testing:

1st c-rod trav.mm : 11.40

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 782...795

4th speed 1/min : 900

C-rod trav.mm : 0.00...1.00

Remarks:
APPLICATION

Generator set



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SSC 14,0 B
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 048 704

Injection pump
Pump designation : PES8P120A520/4RS3097
-1
EP type number : 0 412 028 704
Governor
Governor design. : RQV300...1250PA639-1
Governor no. : 0 421 813 458

Customer-spec. information
Customer : SSCM

Engine : UD 18-V18

1st version kW : 394.0
Speed 1/min: 2500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 2- 6- 3- 4- 5-
 7- 8

SD ang. spacing°CS: 0-45-90-135-180-225-
SD ang. spacing°CS: 270-315
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1250

Contr.-rod trav.mm: 13.30...13.40

Del.quantity cm3/ : 19.9...20.1

100H.: (19.6...20.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 8.1...8.3
Del.quantity cm3/ : 2.0...2.6
100H.: (1.7...2.9)
Dispersion cm3/ : 0.8
100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.30...1.50
2nd speed 1/min: 1000
Sleeve travel mm: 5.70...6.00
3rd speed 1/min: 1250
Sleeve travel mm: 7.80...8.00

SLEEVE POSITION

Control-lever position
Degree: -
Speed 1/min: 1305
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1250
Del.quantity cm3/ : 199.0...201.0
1000H.: (196.0...204.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 59...67

Testing:

1st c-rod trav.mm : 12.30
Speed 1/min : 1290...1300
2nd c-rod trav.mm : 4.00
Speed 1/min : 1415...1445
4th speed 1/min : 1550
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 13...21

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.70
Speed 1/min : 300
C-rod trav.mm : 8.10...8.30

CONSTANT REGULATION

Speed 1/min : 350...460

SWITCH-OVER POINT

Speed 1/min : 220 (240)

Remarks:
APPLICATION

Navy

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,4 L17
 Edition : 23.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 076 057
 Injection pump
 Pump designation : PES6P110A820LS442-1
 EP type number : 0 412 016 063
 Governor
 Governor design. : RSV300...1100POA485-5
 Governor no. : 0 421 833 246
 Customer-spec. information
 Customer : DAIMLER-BENZ
 Engine : OM 407
 1st version kW : 142.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Overflow
 quantity min. 1/h: 100...120
 Calibrating nozzle-holder
 assembly : 0 681 343 009
 Opening
 pressure, bar : 172...175
 Test inj. tubing : 1 680 750 015
 Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600
 (A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

K06

Prestroke mm : 3.20...3.30
 : (3.15...3.35)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1100

 Contr.-rod trav.mm: 9.90...10.00

 Del.quantity cm3/ : 9.7...9.9

 100H.: (9.4...10.1)

 Dispersion cm3/ : 0.4

 100H.: (0.8)

 2nd speed 1/min: 300.0
 Contr.-rod trav. m: 7.8...8.0
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.2)
 Dispersion cm3/ : 0.4
 100H.: (0.7)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 1250
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 3.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1100
 Del.quantity cm3/ : 97.0...99.0
 1000H.: (94.5...101.5)
 Dispersion cm3/ : 4.00
 1000H.: (8.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 45...53

Testing:

1st c-rod trav.mm : 8.90
 Speed 1/min : 1130...1140

2nd c-rod trav.mm : 4.00
Speed 1/min : 1175...1195
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 7.9
Speed 1/min : 300
C-rod trav.mm : 7.80...8.00
C-rod trav.mm : 2.00
Speed 1/min : 435...495

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1100
C-rod trav.mm : 9.90...10.00
2nd speed 1/min : 600
C-rod trav.mm : 11.10...11.30
3rd speed 1/min : 950
C-rod trav.mm : 10.10...10.30

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 93.0...97.0
1000H.: (90.0...100.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,7 E
 Edition : 12.09.86
 Superceeded : 1.86
 Calibrating oil : ISO-4113
 Combination no. : 0 402 076 719
 Injection pump
 Pump designation : PES6P110A82OLS3131-1
 EP type number : 0 412 016 717
 Governor
 Governor design. : RSV350...750POA517
 Governor no. : 0 421 833 215

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM427

1st version kW : 142.0
 Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...120

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.30...4.40
 : (4.25...4.45)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 13.6...13.8

100H.: (13.3...14.1)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 6.9...7.1

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 136.0...138.0

1000H.: (133.0...141.0)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 24...32

Testing:

1st c-rod trav.mm : 11.20

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 775...788

LOWEST RATED SPEED I

Control-lever
position degrees: 13...21
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 7.0

Testing:
Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 6.90...7.10
C-rod trav.mm : 2.00
Speed 1/min : 360...400

SET IDLE AUXILIARY SPRING
Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator

LOWEST RATED SPEED I

Control-lever

position degrees: 19...27

Setting point w/out aux. spring

Speed 1/min : 350

Contr.-rod trav.mm: 6.9

Testing:

Speed 1/min : 100

C-rod trav.mm min : 19.50

Speed 1/min : 350

C-rod trav.mm : 6.80...7.00

C-rod trav.mm : 2.00

Speed 1/min : 400...440

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600

Del.quantity cm3/ : 112.0...116.0

1000H.: (109.0...119.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,4 Q 2
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 076 721
 Injection pump
 Pump designation : PES6P120A82OLS3112-10
 EP type number : 0 412 026 716
 Governor
 Governor design. : RSV350...1100POA485-4
 Governor no. : 0 421 833 240

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM407A

1st version kW : 165.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...110

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1080

Contr.-rod trav.mm: 9.90...10.00

Del.quantity cm3/ : 14.1...14.3

100H.: (13.8...14.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.7...4.9

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1080

Del.quantity cm3/ : 141.0...143.0

1000H.: (138.0...146.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 46...54

Testing:

1st c-rod trav.mm : 8.90
Speed 1/min : 1130...1140
2nd c-rod trav.mm : 4.00
Speed 1/min : 1200...1230
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.8
Speed 1/min : 350
C-rod trav.mm : 4.70...4.90

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 142.0...146.0
1000H.: (139.0...149.0)
Dispersion cm3/ : 7.50
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 12,0 C
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 638 801
Injection pump
Pump designation : PE8P120A920/6LS7127
EP type number : 0 412 628 817
Governor
Governor design. : RQ300/1100PA134-2
Governor no. : 0 421 801 364

Customer-spec. information
Customer : STEYR

Engine : WD 815.66

1st version kW : 270.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
: (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 4- 8- 6- 3-
7- 2

SD ang. spacing°CS: 0-45-90-135-180-225-
270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm3/ : 17.0...17.2

100H.: (16.7...17.5)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.0...5.2

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.4)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 650

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Charge press. hPa : 900

Del.quantity cm3/ : 170.0...172.0

1000H.: (167.0...175.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 650

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 11.80

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00
Speed 1/min : 1230...1260
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.1

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 300
C-rod trav.mm : 5.00...5.20
C-rod trav.mm : 2.00
Speed 1/min : 375...415

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 12.80...12.90

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.90...10.10
2nd pressure hPa : 670
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 370
C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 700
Del.quantity cm3/ : 178.0...186.0
1000H.: (176.0...188.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 115.0...119.0
1000H.: (113.0...121.0)

Remarks:

Because of flattening, set the spring
preload on new delivery-valve holders
to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 12,0 D
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 638 802

Injection pump
Pump designation : PE8P120A920/6LS7127
EP type number : 0 412 628 817
Governor
Governor design. : RQV250..1100PA765-1
Governor no. : 0 421 813 572

Customer-spec. information
Customer : STEYR

Engine : WD 815.66

1st version kW : 270.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
 : (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 4- 8- 6- 3-
 7- 2

SD ang. spacing^oCS: 0-45-90-135-180-225-
 270-315
Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm3/ : 17.0...17.2

 100H.: (16.7...17.5)

Dispersion cm3/ : 0.5

 100H.: (0.9)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 5.3...5.5
Del.quantity cm3/ : 1.5...2.1
 100H.: (1.2...2.4)
Dispersion cm3/ : 0.8
 100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250
Sleeve travel mm: 1.10...1.20
2nd speed 1/min: 340
Sleeve travel mm: 1.70...2.10
3rd speed 1/min: 410
Sleeve travel mm: 2.30...2.70
4th speed 1/min: 1150
Sleeve travel mm: 8.40...8.60
5th speed 1/min: 1240
Sleeve travel mm: 9.60...9.80

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1140
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100

Charge press. hPa : 900
Del.quantity cm3/ : 170.0...172.0
 1000H.: (167.0...175.0)
Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 44...52

Testing:

1st c-rod trav.mm : 11.80
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1230...1260
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.80
Speed 1/min : 250
C-rod trav.mm : 5.30...5.50

CONSTANT REGULATION

Speed 1/min : 250...340

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 12.80...12.90

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 9.90...10.10
2nd pressure hPa : 670
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 370
C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 700
Del.quantity cm3/ : 178.0...186.0
 1000H.: (176.0...188.0)
Charge press. hPa : -
Speed 1/min : 500

Del.quantity cm³/ : 115.0...119.0
1000H.: (113.0...121.0)

Remarks:

Because of flattening, set the spring
preload on new delivery-valve holders
to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 U
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 640 801

Injection pump
Pump designation : PE12P120A320LS7605
EP type number : 0 412 620 802
Governor
Governor design. : RQV350...1050PA781
Governor no. : 0 421 813 511

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 444 LA

1st version kW : 463.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...160

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
: (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
- 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
180-225-240-285-300-
345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 1030

Contr.-rod trav.mm: 14.40...14.50

Del.quantity cm3/ : 21.4...21.6

100H.: (21.1...21.9)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 5.4...5.6

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1180

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1030

Charge press. hPa : 700

Del.quantity cm3/ : 214.0...216.0

1000H.: (211.0...219.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 57...65

Testing:
1st c-rod trav.mm : 13.40
Speed 1/min : 1090...1110
2nd c-rod trav.mm : 4.00
Speed 1/min : 1230...1260
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 8...16

Testing:
Speed 1/min : 100
C-rod trav.mm min : 6.10
Speed 1/min : 350
C-rod trav.mm : 4.40...4.60

CONSTANT REGULATION
Speed 1/min : 400...600
compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 11.80...12.00

Measurement
Speed 1/min : 500

1st pressure hPa : 335
C-rod trav.mm : 12.40...12.60
2nd pressure hPa : 485
C-rod trav.mm : 13.60...13.80

SWITCH-OVER POINT
Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 208.0...214.0
1000H.: (205.0...217.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 153.0...155.0
1000H.: (150.0...158.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:
APPLICATION

Rail car

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 W
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 640 802

Injection pump
Pump designation : PE12P120A32OLS7804
EP type number : 0 412 620 803
Governor
Governor design. : RQV400...1050PA792
Governor no. : 0 421 813 529

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 444 A

1st version kW : 390.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...160

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
 180-225-240-285-300-
 345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 16.9...17.1

100H.: (16.6...17.4)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 5.4...5.6

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1180

Cont.-rod travelmm: 16.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Charge press. hPa : 700

Del.quantity cm3/ : 169.0...171.0

1000H.: (166.0...174.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 56...64

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 4.00
Speed 1/min : 1210...1240
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 8...16

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.10
Speed 1/min : 400
C-rod trav.mm : 4.40...4.60

CONSTANT REGULATION

Speed 1/min : 400...600

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 12.20...12.30
2nd speed 1/min : 900
C-rod trav.mm : 12.80...13.00
3rd speed 1/min : 800
C-rod trav.mm : 13.50...13.60

compensator (LDA,ADA,ALDA)

1st version**Setting**

Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 11.20...11.40

Measurement

Speed 1/min : 500
1st pressure hPa : 240
C-rod trav.mm : 11.70...11.80
2nd pressure hPa : 370
C-rod trav.mm : 12.60...12.80

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS**1st version**

Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 190.0...194.0
1000H.: (187.0...197.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -

Speed 1/min : 500
Del.quantity cm3/ : 143.0...145.0
1000H.: (140.0...148.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:
APPLICATION

Rail car

Testing:
1st c-rod trav.mm : 11.10
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 4.00
Speed 1/min : 1200...1230
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 8...16

Testing:
Speed 1/min : 100
C-rod trav.mm min : 6.10
Speed 1/min : 400
C-rod trav.mm : 4.40...4.60

CONSTANT REGULATION
Speed 1/min : 400...600

TORQUE CONTROL
Dimension a mm : ?
Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 12.10...12.30
2nd speed 1/min : 975
C-rod trav.mm : 12.50...12.70
3rd speed 1/min : 875
C-rod trav.mm : 13.30...13.50
4th speed 1/min : 775
C-rod trav.mm : 13.70...13.90

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 600
Pressure hPa : 660
Contr.-rod trav.mm: 13.10...13.30

Measurement
Speed 1/min : 600
1st pressure hPa : 300
C-rod trav.mm : 10.90...11.10
2nd pressure hPa : 450
C-rod trav.mm : 12.20...12.40
3rd pressure hPa : 800
C-rod trav.mm : 13.30...13.50
4th pressure hPa : 1050
C-rod trav.mm : 13.70...13.90

SWITCH-OVER POINT
Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

K24

Charge press. hPa : 1100
Speed 1/min : 1050
Del.quantity cm3/ : 167.0...170.0
1000H.: (164.0...173.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : 1100
Speed 1/min : 775
Del.quantity cm3/ : 199.0...201.0
1000H.: (196.0...204.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 114.0...116.0
1000H.: (111.0...119.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:
APPLICATION

Rail car

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MWM 21,6 A
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 640 803
Injection pump
Pump designation : PE12P120A520/SRS7116
EP type number : 0 412 620 801
Governor
Governor design. : RQV300...1150PA756-1
Governer no. : 0 421 813 584

Customer-spec. information
Customer : MWM

Engine : TBD234V12

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
: (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00

K25

Cam sequence : 1- 2- 9- 10- 5- 6-
11- 12- 3- 4- 7- 8

SD ang. spacing°CS: 0-30-60-90-120-150-
180-210-240-270-300-
330

Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 14.90...15.00

Del.quantity cm3/ : 26.0...26.2

100H.: (25.8...26.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.5...6.7

Del.quantity cm3/ : 3.0...4.0

100H.: (2.9...4.1)

Dispersion cm3/ : 0.6

100H.: (1.0)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 350

Sleeve travel mm: 1.60...2.00

3rd speed 1/min: 560

Sleeve travel mm: 2.50...2.90

4th speed 1/min: 1190

Sleeve travel mm: 8.30...8.40

5th speed 1/min: 1280

Sleeve travel mm: 9.60...9.90

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1200

Contr.-rod travelmm: 15.20...17.80

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 52...60

Testing:

1st c-rod trav.mm : 13.90

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00
Speed 1/min : 1290...1320
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 14...22

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.00
Speed 1/min : 300
C-rod trav.mm : 6.50...6.70

CONSTANT REGULATION

Speed 1/min : 300...580

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 14.90...15.00

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.30...9.50
2nd pressure hPa : 625
C-rod trav.mm : 14.70...14.80
3rd pressure hPa : 250
C-rod trav.mm : 11.30...11.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

Remarks:

Full-load delivery not known. Set
according to engine test report.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,0 U1
Edition : 23.09.86
Superceeded : 4.81
Calibrating oil : ISO-4113
Combination no. : 0 402 646 802
Injection pump
Pump designation : PE6P120A72ORS7001
EP type number : 0 412 626 800
Governor
Governor design. : RQV200...1050PA539
Governor no. : 0 421 813 290

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DS11

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
: (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00

K27

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm3/ : 19.9...20.1

100H.: (19.6...20.4)

Dispersion cm3/ : 0.6

100H.: (0.9)

2nd speed 1/min: 225.0

Contr.-rod trav. m: 4.4...4.6

Del.quantity cm3/ : 1.3...1.7

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 225

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 270

Sleeve travel mm: 1.80...2.10

3rd speed 1/min: 340

Sleeve travel mm: 2.40...2.80

4th speed 1/min: 1090

Sleeve travel mm: 8.40...8.60

5th speed 1/min: 1200

Sleeve travel mm: 9.30...9.70

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1110

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 199.0...201.0

1000H.: (196.0...204.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 1090...1100

2nd c-rod trav.mm : 4.00

Speed 1/min : 1190...1220

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.90

Speed 1/min : 225

C-rod trav.mm : 4.40...4.60

C-rod trav.mm : 2.00

Speed 1/min : 310...370

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 11.60...11.70

2nd pressure hPa : 420

C-rod trav.mm : 12.80...12.90

3rd pressure hPa : 290

C-rod trav.mm : 11.90...12.10

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 1050

Del.quantity cm3/ : 193.0...201.0

1000H.: (191.0...203.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 160.0...164.0

1000H.: (158.0...166.0)

Remarks:

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

ADDITIONAL INFORMATION

Check and set without ROBO diaphragm

For comb. with letter index see VDT-I-400/116.

For sealing see VDT-I-400/117.

Start of delivery on engine.

Engine model DS 11 - 17° before top dead center.

Firing sequence of engine:
1-5-3-6-2-4.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,0 U9
Edition : 13.11.86
Superceeded : 10.83
Calibrating oil : ISO-4113

Combination no. : 0 402 646 802 S

Injection pump
Pump designation : PE6P120A72ORS7001S
EP type number : 0 412 626 800
Governor
Governor design. : RQV200...1050PA539
Governor no. : 0 421 813 290

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DS11 18

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
 : (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00

L01

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.00...13.10

Del.quantity cm3/ : 19.4...19.6

100H.: (19.1...19.9)

Dispersion cm3/ : 0.6

100H.: (0.9)

2nd speed 1/min: 225.0

Contr.-rod trav. m: 4.4...4.6

Del.quantity cm3/ : 1.3...1.7

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 225

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 270

Sleeve travel mm: 1.80...2.10

3rd speed 1/min: 340

Sleeve travel mm: 2.40...2.80

4th speed 1/min: 1090

Sleeve travel mm: 8.30...8.50

5th speed 1/min: 1190

Sleeve travel mm: 9.70...10.00

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1110

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP**1st version**

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 194.0...196.0

1000H.: (191.0...199.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 57...65

Testing:

1st c-rod trav.mm : 12.00

Speed 1/min : 1090...1100

2nd c-rod trav.mm : 4.00

Speed 1/min : 1185...1215

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.90

Speed 1/min : 225

C-rod trav.mm : 4.40...4.60

C-rod trav.mm : 2.00

Speed 1/min : 310...370

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 13.00...13.10

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 11.60...11.70

2nd pressure hPa : 420

C-rod trav.mm : 12.80...12.90

3rd pressure hPa : 290

C-rod trav.mm : 11.90...12.10

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 1050

Del.quantity cm³/ : 189.0...197.0

1000H.: (187.0...199.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm³/ : 160.0...164.0

1000H.: (158.0...166.0)

Remarks:

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

ADDITIONAL INFORMATION

Check and set without ROBO diaphragm

For comb. with letter index see VDT-I-400/116.

For sealing see VDT-I-400/117.

Start of delivery on engine.

Engine model DS 11 - 17⁰ before top dead center.

Firing sequence of engine:
1-5-3-6-2-4.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,OU14
Edition : 13.11.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 646 827 0
Injection pump
Pump designation : PE6P120A72ORS70010
EP type number : 0 412 626 800
Governor
Governor design. : RQ200/1000PA713-1
0 421 801 324

Customer-spec. information
Customer : SCANIA

Engine : DS11 30

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
(4.95...5.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 10.80...10.90

Del.quantity cm3/ : 14.0...14.2

100H.: (13.7...14.5)

Dispersion cm3/ : 0.6

100H.: (0.9)

2nd speed 1/min: 225

Contr.-rod trav. m: 4.40...4.60

Del.quantity cm3/ : 1.1...1.5

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: 45...47

Speed 1/min: 800

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 140.0...142.0

1000H.: (137.0...145.0)

Dispersion cm3/ : 6.0

1000H.: (9.0)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 800

Contr.-rod trav.mm: 16.5

Testing:

1st c-rod trav.mm : 9.80

Speed 1/min : 1045...1060

2nd c-rod trav.mm : 4.00

Speed 1/min : 1175...1205

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 225
Contr.-rod trav.mm: 4.50

Testing:

Speed 1/min : 100
C-rod trav.mm min : 5.90
Speed 1/min : 225
C-rod trav.mm : 4.40...4.60
C-rod trav.mm : 2.00
Speed 1/min : 300...340

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 11.70...11.80

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.30...10.40
2nd pressure hPa : 165
C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 1000
Del.quantity cm3/ : 143.0...151.0
1000H.: (141.0...153.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 120.0...124.0
1000H.: (118.0...126.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 9,7 D
Edition : 12.09.86
Superceeded : 1.86
Calibrating oil : ISO-4113

Combination no. : 0 402 646 830

Injection pump
Pump designation : PE6P120A720RS7118
EP type number : 0 412 626 811
Governor
Governor design. : RQ300/1100PA784
Governor no. : 0 421 801 337

Customer-spec. information
Customer : STEYR

Engine : WD615.68

1st version kW : 228.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
 : (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.70...12.80

Del.quantity cm3/ : 18.1...18.3

100H.: (17.8...18.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.5...4.7

Del.quantity cm3/ : 1.5...2.1

100H.: (-)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Charge press. hPa : 1200

Del.quantity cm3/ : 181.0...183.0

1000H.: (178.0...186.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 11.70

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1205...1235

4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 4.6

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.00
Speed 1/min : 300
C-rod trav.mm : 4.50...4.70
C-rod trav.mm : 2.00
Speed 1/min : 360...400

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 1200
Contr.-rod trav.mm: 12.70...12.80

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.30...10.40
2nd pressure hPa : 570
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 360
C-rod trav.mm : 10.80...11.00

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1200
Speed 1/min : 700
Del. quantity cm3/ : 190.0...196.0
1000H.: (187.0...199.0)
Charge press. hPa : -
Speed 1/min : 700
Del. quantity cm3/ : 143.0...145.0
1000H.: (140.0...148.0)

Remarks:

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 9,7 D 1
Edition : 12.09.86
Superceeded : 2.86
Calibrating oil : ISO-4113

Combination no. : 0 402 646 831

Injection pump
Pump designation : PE6P120A72ORS7118
EP type number : 0 412 626 801
Governor
Governor design. : RQV250..1100PA785
Governor no. : 0 421 813 517

Customer-spec. information
Customer : STEYR

Engine : WD615.68

1st version kW : 228.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
: (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.70...12.80

Del.quantity cm3/ : 18.1...18.3

100H.: (17.8...18.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.5...2.1

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 350

Sleeve travel mm: 1.80...2.20

3rd speed 1/min: 410

Sleeve travel mm: 2.30...2.70

4th speed 1/min: 1150

Sleeve travel mm: 8.40...8.60

5th speed 1/min: 1240

Sleeve travel mm: 9.50...9.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1150

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Charge press. hPa : 1200

Del.quantity cm3/ : 181.0...183.0

1000H.: (178.0...186.0)

Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 44...52

Testing:

1st c-rod trav.mm : 11.70
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1225...1255
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.30
Speed 1/min : 250
C-rod trav.mm : 4.80...5.00

CONSTANT REGULATION

Speed 1/min : 275...375

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 1200
Contr.-rod trav.mm: 12.70...12.80

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.30...10.40
2nd pressure hPa : 570
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 360
C-rod trav.mm : 10.80...11.00

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1200
Speed 1/min : 700
Del.quantity cm³/ : 190.0...196.0
1000H.: (187.0...199.0)
Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm³/ : 143.0...145.0
1000H.: (140.0...148.0)

Remarks:

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 16,0 A
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 646 832
Injection pump
Pump designation : PE6P130A72ORS7122
EP type number : 0 412 636 804
Governor
Governor design. : RQV225...930PA799
Governor no. : 0 421 813 544

Customer-spec. information
Customer : VOLVO

Engine : TD160

1st version kW : 320.0
Speed 1/min: 1860

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.60...3.70
 : (3.55...3.75)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/min: 700

Contr.-rod trav.mm: 12.90...13.00

Del.quantity cm3/ : 27.5...27.7

100H.: (27.1...28.1)

Dispersion cm3/ : 0.6

100H.: (1.0)

2nd speed 1/min: 225.0

Contr.-rod trav. m: 5.1...5.3

Del.quantity cm3/ : 2.5...2.9

100H.: (2.2...3.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 225

Sleeve travel mm: 0.90...1.00

2nd speed 1/min: 380

Sleeve travel mm: 2.60...2.90

3rd speed 1/min: 440

Sleeve travel mm: 3.60...3.90

4th speed 1/min: 980

Sleeve travel mm: 7.90...8.10

5th speed 1/min: 1050

Sleeve travel mm: 9.20...9.40

SLEEVE POSITION

Control-lever position

degree: -1

Speed 1/min: 1070

Contr.-rod travelmm: 6.70...9.30

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 700

Del. quantity cm³/ : 275.0...277.0
1000H.: (271.0...281.0)
Dispersion cm³/ : 6.00
1000H.: (10.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 62...70

Testing:

1st c-rod trav.mm : 11.90
Speed 1/min : 975...985
2nd c-rod trav.mm : 4.00
Speed 1/min : 1040...1070
4th speed 1/min : 1200
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 6...14

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.60
Speed 1/min : 225
C-rod trav.mm : 5.10...5.30

CONSTANT REGULATION

Speed 1/min : 225...400

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 12.90...13.00

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.70...9.80
2nd pressure hPa : 560
C-rod trav.mm : 12.70...12.80
3rd pressure hPa : 90
C-rod trav.mm : 10.00...10.20

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del. quantity cm³/ : 182.0...186.0
1000H.: (179.0...189.0)

preload on new delivery-valve holders
to 2.9...3.1 mm.

Because of flattening, set the spring

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11 DV6
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 646 834

Injection pump
Pump designation : PE6P120A72ORS7004
EP type number : 0 412 626 801
Governor
Governor design. : RQ1020PA528-3
Governor no. : 0 421 801 348

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DS 11

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
: (4.95...5.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 2- 7- 3- 4- 5-
6- 8

Generator set

SD ang. spacing^oCS: 0-45-90-135-180-225-
270-315
Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 970

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm³/ : 21.4...21.6

100H.: (21.1...21.9)

Dispersion cm³/ : 0.6

100H.: (0.9)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 970

Del.quantity cm³/ : 214.0...216.0
1000H.: (211.0...219.0)

Dispersion cm³/ : 6.00
1000H.: (9.00)

HIGHEST RATED SPEED

Testing:

1st c-rod trav.mm : 11.80

Speed 1/min : 1020...1025

2nd c-rod trav.mm : 4.00

Speed 1/min : 1066...1081

4th speed 1/min : 1120

C-rod trav.mm : 0.00...1.00

Remarks:

Because of flattening, set the spring
preload on new delivery-valve holders
to 2.9...3.1 mm.

APPLICATION

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 6.4

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.80

Speed 1/min : 300

C-rod trav.mm : 6.30...6.50

C-rod trav.mm : 2.00

Speed 1/min : 405...445

TORQUE CONTROL

Dimension a mm : 0.55

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 10.20...10.30

2nd speed 1/min : 700

C-rod trav.mm : 11.10...11.30

3rd speed 1/min : 1020

C-rod trav.mm : 10.30...10.50

4th speed 1/min : 960

C-rod trav.mm : 10.70...10.90

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1200

Contr.-rod trav.mm: 10.90...11.00

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.50...8.60

2nd pressure hPa : 640

C-rod trav.mm : 10.40...10.50

3rd pressure hPa : 460

C-rod trav.mm : 9.50...9.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1200

Speed 1/min : 700

Del.quantity cm3/ : 182.0...188.0

1000H.: (179.0...191.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 121.0...123.0

1000H.: (118.0...126.0)

Remarks:

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 A 1
Edition : 05.11.86
Superceeded : 1.86
Calibrating oil : ISO-4113
Combination no. : 0 402 648 812
Injection pump
Pump designation : PE8P120A320LS7801
EP type number : 0 412 628 806
Governor
Governor design. : RQ300/1050PA717
Governor no. : 0 421 801 258

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM442 LA

1st version kW : 320.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
: (5.15...5.35)
Contr.-rod trav.mm: 20.00...21.00
Cam sequence : 8- 7- 2- 6- 3- 5-
4- 1

SD ang. spacing°CS: 0-45-90-135-180-225-
270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 600

Contr.-rod trav.mm: 14.80...15.00

Del.quantity cm3/ : 21.6...21.8

100H.: (21.3...22.1)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.1...6.7

Del.quantity cm3/ : 1.6...2.2

100H.: (1.3...2.5)

Dispersion cm3/ : 0.6

100H.: (1.0)

SLEEVE POSITION

Control-lever position

Degree: -2

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 600

Charge press. hPa : 680

Del.quantity cm3/ : 216.0...218.0

1000H.: (213.0...221.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 14.70
Speed 1/min : 1095...1110
2nd c-rod trav.mm : 4.00
Speed 1/min : 1160...1190
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 6.4

Testing:

Speed 1/min : 200
C-rod trav.mm min : 8.00
Speed 1/min : 300
C-rod trav.mm : 6.10...6.70
C-rod trav.mm : 2.00
Speed 1/min : 380...420

TORQUE CONTROL

Dimension a mm : 0.35
2nd speed 1/min : 1050
C-rod trav.mm : 15.60...15.80
3rd speed 1/min : 850
C-rod trav.mm : 16.00...16.20

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600
Pressure hPa : 680
Contr.-rod trav.mm: 14.80...15.00

Measurement

Speed 1/min : 600

1st pressure hPa : 310
C-rod trav.mm : 12.20...12.40
2nd pressure hPa : 470
C-rod trav.mm : 13.80...14.00
3rd pressure hPa : 820
C-rod trav.mm : 14.60...14.80
4th pressure hPa : 950
C-rod trav.mm : 15.10...15.20
5th pressure hPa : 150
C-rod trav.mm : 11.50...11.70

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1150
Speed 1/min : 1050

Del.quantity cm3/ : 232.0...235.0
1000H.: (229.0...238.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : 1150
Speed 1/min : 850
Del.quantity cm3/ : 247.0...251.0
1000H.: (244.0...254.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 A 3
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 648 818

Injection pump
Pump designation : PE8P120A320LS7801
EP type number : 0 412 628 806
Governor
Governor design. : RQ300/950PA762-1
Governor no. : 0 421 801 304

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM442 LA

1st version kW : 298.0
Speed 1/min: 1900

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
 Contr.-rod trav.mm: 20.00...21.00
 Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing⁰CS: 0-45-90-135-180-225-
270-315Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 600

Contr.-rod trav.mm: 14.20...14.40

Del.quantity cm³/ : 21.0...21.2

100H.: (20.7...21.5)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.8...6.0

Del.quantity cm³/ : 1.2...2.0
100H.: (0.9...2.3)Dispersion cm³/ : 0.8
100H.: (1.2)**SLEEVE POSITION**

Control-lever position

Degree: -2

Speed 1/min: 600

Contr.-rod travelmm: 19.20...20.80

FULL-LOAD DELIV. AT FULL-LOAD STOP**1st version**

Speed 1/min: 600

Charge press. hPa : 750

Del.quantity cm³/ : 210.0...212.0
1000H.: (207.0...215.0)Dispersion cm³/ : 5.00
1000H.: (9.00)**HIGHEST RATED SPEED**

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 20.0

Testing:

1st c-rod trav.mm : 13.00

Speed 1/min : 990...1010

2nd c-rod trav.mm : 4.00

Speed 1/min : 1060...1090

4th speed 1/min : 1200

C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 5.9

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.50

Speed 1/min : 300

C-rod trav.mm : 5.80...6.00

C-rod trav.mm : 2.00

Speed 1/min : 365...405

TORQUE CONTROL

Dimension a mm : -

Torque-control curve - 1st version

1st speed 1/min : 950

C-rod trav.mm : 14.00...14.20

2nd speed 1/min : 925

C-rod trav.mm : 14.20...14.40

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600

Pressure hPa : 750

Contr.-rod trav.mm: 14.20...14.40

Measurement

Speed 1/min : 320

1st pressure hPa : 11.80

C-rod trav.mm : ...12.00.00

2nd pressure hPa : 420

C-rod trav.mm : 13.40...13.60

3rd pressure hPa : 850

C-rod trav.mm : 14.30...14.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS**1st version**

Charge press. hPa : 1050

Speed 1/min : 950

Del.quantity cm³/ : 211.0...214.0

1000H.: (208.0...217.0)

Dispersion cm³/ : 8.00

1000H.: (12.0)

Charge press. hPa : 1050
Speed 1/min : 800
Del.quantity cm3/ : 225.0...228.0
1000H.: (222.0...231.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 152.0...154.0
1000H.: (149.0...157.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 14,7 B 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 648 825

Injection pump
Pump designation : PE8P120A320LS7801
EP type number : 0 412 628 806
Governor
Governor design. : RQV300..1050PA797-1
Governor no. : 0 421 813 533

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM442 A

1st version kW : 260.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
Contr.-rod trav.mm: 20.00...21.00
Cam sequence : 8- 7- 2- 6- 3- 5-
 4- 1

SD ang. spacing⁰CS: 0-45-90-135-180-225-
 270-315
Tolerance + - ⁰ : 0.50 (0.75)

SD mark cyl. no. : 8

BASIC SETTING

1st speed 1/mi: 600

Contr.-rod trav.mm: 13.60...13.80

Del.quantity cm3/ : 19.2...19.4

 100H.: (18.9...19.7)

Dispersion cm3/ : 0.5

 100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 6.2...6.6
Del.quantity cm3/ : 1.6...2.2
 100H.: (1.3...2.5)
Dispersion cm3/ : 0.6
 100H.: (1.0)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.20...1.40
2nd speed 1/min: 600
Sleeve travel mm: 4.90...5.10
3rd speed 1/min: 1075
Sleeve travel mm: 7.40...7.60
4th speed 1/min: 1100
Sleeve travel mm: 8.00...8.20
5th speed 1/min: 1150
Sleeve travel mm: 9.00...9.20

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1090
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

L21

1st version

Speed 1/min: 600
Charge press. hPa : 650
Del.quantity cm3/ : 192.0...194.0
 1000H.: (189.0...197.0)
Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 49...57

Testing:

1st c-rod trav.mm : 11.90
Speed 1/min : 1095...1110
2nd c-rod trav.mm : 4.00
Speed 1/min : 1170...1200
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 15...23

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.70
Speed 1/min : 300
C-rod trav.mm : 6.20...6.40

CONSTANT REGULATION

Speed 1/min : 300...450

TORQUE CONTROL

Dimension a mm : 1.20
2nd speed 1/min : 1050
C-rod trav.mm : 12.80...13.00
3rd speed 1/min : 850
C-rod trav.mm : 13.70...13.90
4th speed 1/min : 700
C-rod trav.mm : 14.00...14.30

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 600
Pressure hPa : 650
Contr.-rod trav.mm: 13.60...13.80

Measurement

Speed 1/min : 600
1st pressure hPa : 300
C-rod trav.mm : 11.90...12.10
2nd pressure hPa : 400
C-rod trav.mm : 12.90...13.20

3rd pressure hPa : 850
C-rod trav.mm : 13.70...13.80

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1050
Speed 1/min : 1050
Del.quantity cm3/ : 179.0...182.0
1000H.: (176.0...185.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Charge press. hPa : 1050
Speed 1/min : 700
Del.quantity cm3/ : 205.0...209.0
1000H.: (202.0...212.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Charge press. hPa : 1050
Speed 1/min : 850
Del.quantity cm3/ : 201.0...205.0
1000H.: (198.0...208.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 145.0...147.0
1000H.: (142.0...150.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 14,2 I
 Edition : 28.10.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 648 827
 Injection pump
 Pump designation : PE8P120A920/4LS7016
 EP type number : 0 412 628 814
 Governor
 Governor design. : RQV200...950PAS47-7
 Governor no. : 0 421 813 550

Customer-spec. information
 Customer : SCANIA

Engine : DSC14 06

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 1 688 901 019
 Opening
 pressure, bar : 207...210
 Perforated-plate
 diameter mm : 0,8
 Test inj. tubing : 1 680 750 015
 Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600
 (A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----
 START OF DELIVERY
 Test pressure, bar : 25...27
 Prestroke mm : 5.00...5.10
 : (4.95...5.15)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 2- 7- 3- 4- 5-
6- 8

SD ang. spacing^oCS: 0-45-90-135-180-225-
270-315

Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.60...12.70

Del.quantity cm3/ : 19.0...19.2

100H.: (18.7...19.5)

Dispersion cm3/ : 0.6

100H.: (0.9)

2nd speed 1/min: 225.0

Contr.-rod trav. m: 4.9...5.1

Del.quantity cm3/ : 1.6...2.0

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 225

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 330

Sleeve travel mm: 2.40...2.70

3rd speed 1/min: 420

Sleeve travel mm: 3.10...3.40

4th speed 1/min: 1000

Sleeve travel mm: 7.80...8.00

5th speed 1/min: 1100

Sleeve travel mm: 9.10...9.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1040

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 190.0...192.0

1000H.: (187.0...195.0)

Dispersion cm3/ : 6.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 56...64

Testing:

1st c-rod trav.mm : 11.60

Speed 1/min : 990...1000

2nd c-rod trav.mm : 4.00

Speed 1/min : 1090...1120

4th speed 1/min : 1250

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.40

Speed 1/min : 225

C-rod trav.mm : 4.90...5.10

C-rod trav.mm : 2.00

Speed 1/min : 370...430

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 12.60...12.70

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 11.20...11.30

3rd pressure hPa : 145

C-rod trav.mm : 11.50...11.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 950

Del.quantity cm3/ : 184.0...192.0

1000H.: (182.0...194.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 158.0...162.0

1000H.: (156.0...164.0)

Remarks:

Because of flattening, set the spring
preload on new delivery-valve holders
to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 14,2 B3
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 648 828
Injection pump
Pump designation : PE8P120A920/4LS7003
EP type number : 0 412 628 801
Governor
Governor design. : RQ1020PAS28-3
Governor no. : 0 421 801 348

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DSI444.DSI1445

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.00...5.10
: (4.95...5.15)
Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 2- 7- 3- 4- 5-
6- 8

SD ang. spacing°CS: 0-45-90-135-180-225-
270-315

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 970

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm3/ : 19.9...20.1

100H.: (19.6...20.4)

Dispersion cm3/ : 0.6

100H.: (0.9)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 970

Del.quantity cm3/ : 199.0...201.0

1000H.: (196.0...204.0)

Dispersion cm3/ : 6.00

1000H.: (9.00)

HIGHEST RATED SPEED

Testing:

1st c-rod trav.mm : 11.80

Speed 1/min : 1020...1025

2nd c-rod trav.mm : 4.00

Speed 1/min : 1066...1081

4th speed 1/min : 1120

C-rod trav.mm : 0.00...1.00

Remarks:

Because of flattening, set the spring
preload on new delivery-valve holders
to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MWM 28,8 A
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 648 829
Injection pump
Pump designation : PE8P120A500/SRS7109
EP type number : 0 412 628 809
Governor
Governor design. : RQV300...1150PA756-1
Governor no. : 0 421 813 584

Customer-spec. information
Customer : MWM

Engine : TBD234V16

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values.
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
: (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 2- 3- 4- 7- 8-
5- 6

SD ang. spacing°CS: 0-30-90-120-225-255-
315-345
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800
Contr.-rod trav.mm: 14.90...15.01
Del.quantity cm3/ : 26.0...26.2
100H.: (25.7...26.5)
Dispersion cm3/ : 0.5
100H.: (0.9)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 6.5...6.7
Del.quantity cm3/ : 3.0...4.0
100H.: (2.7...4.3)
Dispersion cm3/ : 0.8
100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.30...1.40
2nd speed 1/min: 360
Sleeve travel mm: 1.60...2.10
3rd speed 1/min: 560
Sleeve travel mm: 2.50...2.90
4th speed 1/min: 1190
Sleeve travel mm: 8.30...8.40
5th speed 1/min: 1280
Sleeve travel mm: 9.60...9.90

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1200
Contr.-rod travelmm: 15.20...17.80

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 52...60

Testing:
1st c-rod trav.mm : 13.90
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00

Speed 1/min : 1270...1300
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 14...22

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.00
Speed 1/min : 300
C-rod trav.mm : 6.50...6.70

CONSTANT REGULATION

Speed 1/min : 300...580

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 14.90...15.00

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.30...9.50
2nd pressure hPa : 625
C-rod trav.mm : 14.70...14.80
3rd pressure hPa : 250
C-rod trav.mm : 11.30...11.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

Remarks:

Pump runs in tandem

Full-load delivery not known. Set
according to engine test report.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MWM 14,4 B1
 Edition : 06.10.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 402 648 830
 Injection pump
 Pump designation : PE8P120A520/5RS7115
 EP type number : 0 412 628 813
 Governor
 Governor design. : RQV300...1150PA756-1
 Governor no. : 0 421 813 584

Customer-spec. information
 Customer : MWM

Engine : TBD234V8

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 8- 5- 4- 7- 2-
 3- 6

SD ang. spacing°CS: 0-30-90-120-180-210-
 270-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800

 Contr.-rod trav.mm: 14.90...15.00

 Del.quantity cm3/ : 26.0...26.2

 100H.: (25.7...26.5)

 Dispersion cm3/ : 0.5

 100H.: (0.9)

2nd speed 1/min: 300.0
 Contr.-rod trav. m: 6.2...6.4
 Del.quantity cm3/ : 3.0...4.0
 Dispersion cm3/ : 0.8
 100H.: (1.2)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
 Sleeve travel mm: 1.30...1.40
 2nd speed 1/min: 350
 Sleeve travel mm: 1.60...2.00
 3rd speed 1/min: 560
 Sleeve travel mm: 2.50...2.90
 4th speed 1/min: 1190
 Sleeve travel mm: 8.30...8.40
 5th speed 1/min: 1280
 Sleeve travel mm: 9.60...9.90

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1200
 Cont.-rod travelmm: 15.20...17.80

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 52...60

Testing:
 1st c-rod trav.mm : 13.90
 Speed 1/min : 1190...1200
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1270...1300

4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 14...22

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.00
Speed 1/min : 300
C-rod trav.mm : 6.50...6.70

CONSTANT REGULATION

Speed 1/min : 300...580

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 14.90...15.00

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.30...9.50
2nd pressure hPa : 625
C-rod trav.mm : 14.70...14.80
3rd pressure hPa : 250
C-rod trav.mm : 11.30...11.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

Remarks:

Full-load delivery is set on engine
according to engine test report.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 Y
Edition : 19.12.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 670 801

Injection pump
Pump designation : PE12P120A320LS7807
EP type number : 0 412 620 806
Governor
Governor design. : RSV350...750POA825-1
Governor no. : 0 421 833 248

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 444 LA

1st version kW : 407.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...170

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing^aCS: 0-45-60-105-120-165-
 180-225-240-285-300-
 345

Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 15.80...15.90

Del.quantity cm3/ : 24.1...24.3

100H.: (23.8...24.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...1.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 241.0...243.0

1000H.: (238.0...246.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 23...31

Testing:

1st c-rod trav.mm : 13.10
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 780...790
4th speed 1/min : 1000
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 4.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:
APPLICATION

Generator

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,1 D
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 676 803
Injection pump
Pump designation : PE6P130A320RS7113
EP type number : 0 412 636 803
Governor
Governor design. : RSV200...900P4A521
Governor no. : 0 421 833 241

Customer-spec. information
Customer : VOLVO

Engine : TJD121LP

1st version kW : 295.0
Speed 1/min: 1800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
: (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm3/ : 27.1...27.4
100H.: (26.8...27.8)

Dispersion cm3/ : 0.6
100H.: (1.0)

2nd speed 1/min: 200.0
Contr.-rod trav. m: 4.2...4.4
Del.quantity cm3/ : 1.5...2.0
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (0.8)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

Governor-spring reload
Notch setting x : 4.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 271.5...274.5
1000H.: (268.0...278.0)
Dispersion cm3/ : 6.00
1000H.: (10.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 48...56

Testing:
1st c-rod trav.mm : 11.80
Speed 1/min : 940...950
2nd c-rod trav.mm : 4.00

Speed 1/min : 965...995
4th speed 1/min : 1130
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 15...23
Setting point w/out aux. spring
Speed 1/min : 200
Contr.-rod trav.mm: 4.6

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.50
Speed 1/min : 200
C-rod trav.mm : 5.00...5.20
C-rod trav.mm : 2.00
Speed 1/min : 250...300

Remarks:

Because of flattening, set the spring
preload on new delivery-valve holders
to 2.9...3.1 mm.

Note inst. in remarks column

Speed 1/min : 1145...1160
2nd c-rod trav.mm : 4.00
Speed 1/min : 1220...1250
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.50

Omnibus

LOWEST RATED SPEED I

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.50
Speed 1/min : 300
C-rod trav.mm : 5.80...6.00
C-rod trav.mm : 2.00
Speed 1/min : 380...420

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 10.70...11.00

Measurement

Speed 1/min : 500

1st pressure hPa : 230
C-rod trav.mm : 11.00...11.20
2nd pressure hPa : 370
C-rod trav.mm : 12.40...12.60

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 750
Speed 1/min : 600
Del.quantity cm3/ : 195.0...198.0
1000H.: (192.0...201.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 144.0...146.0
1000H.: (141.0...149.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

APPLICATION

MOB

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,7 C
Edition : 12.09.86
Superceeded : 1.86
Calibrating oil : ISO-4113

Combination no. : 0 402 776 800

Injection pump
Pump designation : PES6P120A720LS7120
EP type number : 0 412 726 803
Governor
Governor design. : RSV350..1100POA518
Governor no. : 0 421 833 217

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM427 A

1st version kW : 206.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1080

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm3/ : 19.6...19.8

100H.: (19.3...20.1)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 5.0...5.2

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 3.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1080

Charge press. hPa : 750

Del.quantity cm3/ : 196.0...198.0

1000H.: (193.0...201.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 12.20
Speed 1/min : 1130...1140
2nd c-rod trav.mm : 4.00
Speed 1/min : 1200...1230
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 5.6
Speed 1/min : 350
C-rod trav.mm : 5.50...5.70

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 750
Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : 320
C-rod trav.mm : 11.40...11.60
2nd pressure hPa : -
C-rod trav.mm : 10.70...10.90

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 750
Speed 1/min : 750
Del.quantity cm3/ : 202.0...206.0
1000H.: (199.0...209.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 143.0...145.0
1000H.: (140.0...148.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,7 G
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 402 776 801

Injection pump
Pump designation : PES6P120A720LS7107-1
EP type number : 0 412 726 805
Governor
Governor design. : RSV350..0750POAS20
Governor no. : 0 421 833 223

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM427 A

1st version kW : 184.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...110

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 5.20...5.30
 : (5.15...5.35)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 2- 4- 1- 5- 3

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.40...13.50

Del.quantity cm3/ : 20.1...20.3
100H.: (19.8...20.6)

Dispersion cm3/ : 0.5
100H.: (0.9)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 5.4...5.6
Del.quantity cm3/ : 1.6...2.2
100H.: (1.3...2.5)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 201.0...203.0
1000H.: (198.0...206.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 29...37

Testing:
1st c-rod trav.mm : 12.40
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00

Speed 1/min : 775...788

LOWEST RATED SPEED I

Control-lever

position degrees: 12...20

Setting point w/out aux. spring

Speed 1/min : 350

Contr.-rod trav.mm: 5.5

Speed 1/min : 350

C-rod trav.mm : 5.40...5.60

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 500

Del.quantity cm3/ : 188.0...194.0

1000H.: (185.0...197.0)

Dispersion cm3/ : 8.00

1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 5,7 A 14
Edition : 05.11.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 444 110

Injection pump
Pump designation : PES4MW100/72ORS1127
EP type number : 0 413 404 103
Governor
Governor design. : RQV300...1300MW48-1
Governor no. : 0 420 083 084

Customer-spec. information
Customer : DB

Engine : OM 364 A

1st version kW : 85.0

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
 : (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 3- 4- 2

SD ang. spacing°CS: 0-90-180-270
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.00...11.10

Del. quantity cm3/ : 8.3...8.5

100H.: (8.1...8.7)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.8...7.9

Del. quantity cm3/ : 1.0...1.4

100H.: (0.8...1.6)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1330

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Del. quantity cm3/ : 83.0...85.0

1000H.: (81.0...87.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1430...1460

4th speed 1/min : 1550

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 17...25

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 7.8...7.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.50
Speed 1/min : 300
C-rod trav.mm : 7.80...7.90

CONSTANT REGULATION

Speed 1/min : 330...600

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 600
C-rod trav.mm : 12.10...12.20
3rd speed 1/min : 750
C-rod trav.mm : 11.70...11.80
4th speed 1/min : 1000
C-rod trav.mm : 11.00...11.30

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750
Del.quantity cm3/ : 80.5...83.5
1000H.: (79.0...86.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Speed 1/min : 600
Del.quantity cm3/ : 82.0...84.0
1000H.: (80.0...86.0)
Dispersion cm3/ : 5.00
1000H.: 7.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 4,5 L
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 403 444 111

Injection pump
Pump designation : PES4MW100/32ORS1116
EP type number : 0 413 404 102
Governor
Governor design. : RQV300...1100MW39-5
Governor no. : 0 420 083 068

Customer-spec. information
Customer : VOLVO

Engine : TD45B

1st version kW : 85.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 173...176

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.00...3.10
: (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00

M15

Cam sequence : 1- 3- 4- 2

SD ang. spacing°CS: 0-90-180-270
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.90...13.00

Del.quantity cm3/ : 11.3...11.5

100H.: (11.1...11.7)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 6.4...6.5
Del.quantity cm3/ : 1.3...1.7
100H.: (1.0...1.9)
Dispersion cm3/ : 0.35
100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.30
2nd speed 1/min: 415
Sleeve travel mm: 1.90
3rd speed 1/min: 445
Sleeve travel mm: 2.30
4th speed 1/min: 660
Sleeve travel mm: 3.50
5th speed 1/min: 1000
Sleeve travel mm: 6.50

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1100
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 113.0...115.0
100H.: (111.0...117.0)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 44...52

Testing:

1st c-rod trav.mm : 11.90
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1225...1255
3rd c-rod trav.mm : 0.00...1.00
Speed 1/min : 1350

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 6.4...6.5

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.00

CONSTANT REGULATION

Speed 1/min : 320...450

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1000
Del.quantity cm3/ : 113.0...117.0
1000H.: (111.0...119.0)
Dispersion cm3/ : 5.50
1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : FIA 5,5 A
 Edition : 12.09.86
 Superceeded : 5.82
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 118
 Injection pump
 Pump designation : PES6MW80/72ORS1015
 EP type number : 0 413 486 001
 Governor
 Governor design. : RQ300/1600MW24
 Governor no. : 0 420 082 006

Customer-spec. information
 Customer : IVECO-FIAT

Engine : 8060.24

1st version kW : 118.0
 Speed 1/min: 3200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
 x Wall thickness : 6.00X2.00X600
 x Length mm

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 2.10...2.20
 : (2.05...2.25)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 5.9...6.1

100H.: (5.7...6.3)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.1...8.3

Del.quantity cm3/ : 1.0...1.4

100H.: (0.8...1.7)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 700

Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Del.quantity cm3/ : 59.5...61.5

1000H.: (57.5...63.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 30...38

Setting point:

Speed 1/min : 700

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 10.70

Speed 1/min : 1645...1660

2nd c-rod trav.mm : 4.00

Speed 1/min : 1750...1780

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 1900

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 8.1...8.3

Testing:

Speed 1/min : 100

C-rod trav.mm min : 9.00

Speed 1/min : 300

C-rod trav.mm : 8.1...8.300

CONSTANT REGULATION

Speed 1/min : 330...500

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1600

Del.quantity cm3/ : 68.0...72.5

1000H.: (66.5...74.5)

Dispersion cm3/ : 5.00

1000H.: (7.00)

Remarks:

Check electrically unlatched starting
fuel delivery (EES) with 24 volt.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 11
Edition : 12.09.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 446 145

Injection pump
Pump designation : PES6MW100/72ORS1114
EP type number : 0 413 406 109
Governor
Governor design. : RQV300...1300MW48
Governor no. : 0 420 083 066

Customer-spec. information
Customer : DB

Engine : OM366A

1st version kW : 125.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 7.7...7.9

100H.: (7.5...8.1)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 7.8...7.9

Del.quantity cm3/ : 0.9...1.3

100H.: (0.8...1.4)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1330

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Del.quantity cm3/ : 77.0...79.0

1000H.: (75.0...81.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1430...1460

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 1520

LOWEST RATED SPEED I

Control-lever

position degrees: 14...22

Setting point w/out aux. spring

Speed 1/min : 300
Contr.-rod trav.mm: 7.8...7.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.40
Speed 1/min : 300
C-rod trav.mm : 7.8...7.9
C-rod trav.mm : 2.00
Speed 1/min : 500...560

CONSTANT REGULATION

Speed 1/min : 330...600

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 700
C-rod trav.mm : 12.10...12.20
3rd speed 1/min : 720
C-rod trav.mm : 12.10...12.20
4th speed 1/min : 800
C-rod trav.mm : 11.80...12.00
5th speed 1/min : 900
C-rod trav.mm : 11.40...11.70

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700
Del.quantity cm3/ : 75.0...77.0
1000H.: (73.0...79.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 4
 Edition : 12.09.86
 Superceeded : 11.85
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 147
 Injection pump
 Pump designation : PES6MW100/720RS1115
 EP type number : 0 413 406 110
 Governor
 Governor design. : RQV300...1300MWSO
 Governor no. : 0 420 083 071

Customer-spec. information
 Customer : DB

Engine : OM366LA

1st version kW : 148.0
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.20...3.30
 : (3.15...3.35)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.90...12.00

Del.quantity cm3/ : 9.6...9.8

100H.: (9.4...10.0)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.6...5.7

Del.quantity cm3/ : 0.9...1.2

100H.: (0.65...1.45)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1340

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 96.0...98.0

1000H.: (94.0...100.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.90

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1435...1465

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 1550

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.6...5.7

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.20
Speed 1/min : 300
C-rod trav.mm : 5.6...5.7

CONSTANT REGULATION

Speed 1/min : 370...550

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 180
Contr.-rod trav.mm: 10.80...10.90

Measurement

Speed 1/min : 500

1st pressure hPa : 700
C-rod trav.mm : 11.9...12.0
2nd pressure hPa : -
C-rod trav.mm : 10.10...10.20
3rd pressure hPa : 210
C-rod trav.mm : 11.40...11.70

SWITCH-OVER POINT

Speed 1/min : 220 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 82.0...86.0
1000H.: (80.0...88.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 54.0...56.0
1000H.: (52.0...58.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 6,1 G
Edition : 05.11.86
Superceeded : 4.86
Calibrating oil : ISO-4113

Combination no. : 0 403 446 153

Injection pump
Pump designation : PES6MW100/32ORS1119-1
EP type number : 0 413 406 114
Governor
Governor design. : RQV300..1400MW57-1
Governor no. : 0 420 083 079

Customer-spec. information
Customer : VOLVO

Engine : TD 61..3012

1st version kW : 150.0
Speed 1/min: 2800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.20...3.30
: (3.15...3.35)

M23

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 10.4...10.6

100H.: (10.3...10.9)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.3...6.4

Del.quantity cm3/ : 1.6...2.0

100H.: (1.35...2.25)

Dispersion cm3/ : 0.35

100H.: (0.55)

SLEEVE POSITION

Control-lever position

Degree: 1

Speed 1/min: 1480

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1000

Charge press. hPa : 700

Del.quantity cm3/ : 104.0...106.0

1000H.: (103.0...109.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 57...65

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 1440...1450

2nd c-rod trav.mm : 4.00

Speed 1/min : 1590...1620

4th speed 1/min : 1700

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.90
Speed 1/min : 300
C-rod trav.mm : 6.30...6.40

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 550
Pressure hPa : 435
Contr.-rod trav.mm: 11.80...11.90

Measurement

Speed 1/min : 550

1st pressure hPa : -
C-rod trav.mm : 10.10...10.20
2nd pressure hPa : 175
C-rod trav.mm : 10.30...10.60
3rd pressure hPa : 700
C-rod trav.mm : 12.00...12.10

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 1000
Del.quantity cm3/ : 75.0...77.0
1000H.: (73.0...79.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 8,8 P
Edition : 12.09.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 446 154

Injection pump
Pump designation : PES6MW100/320RS1025
EP type number : 0 413 406 012
Governor
Governor design. : RQ750MW42
Governor no. : 0 420 082 009

Customer-spec. information
Customer : RVI

Engine : MIDR06.02-12

1st version kW : 100.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.00...3.10
: (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00

M25

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 14.50...14.60

Del.quantity cm3/ : 13.3...13.5

100H.: (13.1...13.7)

Dispersion cm3/ : 0.35

100H.: (0.6)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 133.5...135.5
1000H.: (131.5...137.5)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 29...35

Testing:
1st c-rod trav.mm : 13.50
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 795...805
3rd c-rod trav.mm : 0.00...1.00
Speed 1/min : 825

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D3
Edition : 12.09.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 446 155

Injection pump
Pump designation : PES6MW100/72ORS1115
EP type number : 0 413 406 110
Governor
Governor design. : RQV300...1300MW62
Governor no. : 0 420 083 085

Customer-spec. information
Customer : DB

Engine : OM366LA

1st version kW : 148.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.20...3.30
: (3.15...3.35)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.90...12.00

Del.quantity : 9.3...9.5

100H.: (9.1...9.7)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.6...5.7

Del.quantity cm3/ : 1.0...1.4

100H.: (0.8...1.7)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1340

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 93.0...95.0

1000H.: (91.0...97.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.90

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1435...1465

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 1550

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 5.6...5.7

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.20

Speed 1/min : 300

C-rod trav.mm : 5.60...5.70

CONSTANT REGULATION

Speed 1/min : 370...550

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 11.90...12.00

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.40...10.50

2nd pressure hPa : 180

C-rod trav.mm : 10.80...10.90

3rd pressure hPa : 210

C-rod trav.mm : 11.60...11.90

SWITCH-OVER POINT

Speed 1/min : 220 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 600

Del.quantity cm3/ : 86.5...90.5

1000H.: (84.5...92.5)

Dispersion cm3/ : 5.00

1000H.: (7.00)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 61.0...63.0

1000H.: (59.0...65.0)

Dispersion cm3/ : 3.50

1000H.: 6.00

Remarks:

Set intermediate-speed stop (ZDA) to contact at 1300 1/min, then turn back 1/2 turn.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 13
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 156
 Injection pump
 Pump designation : PES6MW100/72ORS1120
 EP type number : 0 413 406 112
 Governor
 Governor design. : RQV300...1300MW59
 Governor no. : 0 420 083 077

Customer-spec. information
 Customer : DB

Engine : OM366LA

1st version kW : 141.7
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.50...3.60
 : (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 12.10...12.20

Del.quantity cm3/ : 8.9...9.1

100H.: (8.7...9.3)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.0...6.1

Del.quantity cm3/ : 1.0...1.4

100H.: (0.7...1.6)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1340

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : -

Del.quantity cm3/ : 89.0...91.0

1000H.: (87.0...93.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 11.10

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1440...1470

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 1530

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

NO2

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 6.0...6.1

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.00

Speed 1/min : 300

C-rod trav.mm : 6.0...6.10

CONSTANT REGULATION

Speed 1/min : 320...550

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 260

Contr.-rod trav.mm: 11.00...11.10

Measurement

Speed 1/min : 500

1st pressure hPa : 700

C-rod trav.mm : 12.00...12.10

2nd pressure hPa : -

C-rod trav.mm : 10.80...10.90

3rd pressure hPa : 310

C-rod trav.mm : 11.70...12.00

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : -

Speed 1/min : 750

Del.quantity cm3/ : 82.0...86.0

1000H.: (79.5...88.5)

Dispersion cm3/ : 5.00

1000H.: (7.00)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm3/ : 53.0...55.0

1000H.: (51.0...57.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 9
Edition : 05.11.86
Superceeded : 4. 86
Calibrating oil : ISO-4113

Combination no. : 0 403 446 158

Injection pump
Pump designation : PES6MW100/72ORS1131
EP type number : 0 413 406 123
Governor
Governor design. : RQV300...1300MW50-1
Governor no. : 0 420 083 089

Customer-spec. information
Customer : DB

Engine : OM 366 LA

1st version kW : 150.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

NO4

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 12.10...12.20

Del.quantity cm3/ : 10.0...10.2

100H.: (9.8...10.4)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.1...6.2

Del.quantity cm3/ : 0.9...1.3

100H.: (0.6...1.5)

Dispersion cm3/ : 0.35

100H.: (0.55)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1340

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 100.5...102.5

1000H.: (98.5...104.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 11.10

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1440...1470

4th speed 1/min : 1550

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 11...19

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 6.1...6.2

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.60
Speed 1/min : 300
C-rod trav.mm : 6.10...6.20

CONSTANT REGULATION

Speed 1/min : 350...550

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 170
Contr.-rod trav.mm: 10.60...10.70

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.30...10.40
2nd pressure hPa : 225
C-rod trav.mm : 11.70...12.00
3rd pressure hPa : 700
C-rod trav.mm : 12.10...12.20

SWITCH-OVER POINT

Speed 1/min : 220 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 85.0...89.0
1000H.: (83.0...91.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 54.0...56.0
1000H.: (52.0...58.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 10
 Edition : 12.09.86
 Superceeded : 11.85
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 159
 Injection pump
 Pump designation : PES6MW100/72ORS1131
 EP type number : 0 413 406 123
 Governor
 Governor design. : RQV300...1300MW62-1
 Governor no. : 0 420 083 088

Customer-spec. information
 Customer : DB

Engine : OM 366 LA
 1st version kW : 150.0
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
 : (3.65...3.85)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

 Contr.-rod trav.mm: 12.50...12.60

 Del.quantity cm3/ : 9.6...9.8

 100H.: (9.4...10.0)

 Dispersion cm3/ : 0.35

 100H.: (0.6)

 2nd speed 1/min: 300.0
 Contr.-rod trav. m: 6.1...6.2
 Del.quantity cm3/ : 1.0...1.4
 100H.: (0.7...1.6)
 Dispersion cm3/ : 0.35
 100H.: (0.5)

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1340
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1300
 Charge press. hPa : 700
 Del.quantity cm3/ : 96.0...98.0
 1000H.: (94.0...100.0)
 Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 48...56

Testing:

1st c-rod trav.mm : 11.50
 Speed 1/min : 1340...1350
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1440...1470
 3rd c-rod trav.mm : 0.00...1.00
 Speed 1/min : 1550

LOWEST RATED SPEED I

Control-lever
 position degrees: 11...19

Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 6.1...6.2

Testing:
Speed 1/min : 100
C-rod trav.mm min : 7.60

CONSTANT REGULATION
Speed 1/min : 350...550
compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 170
Contr.-rod trav.mm: 10.90...11.00

Measurement
Speed 1/min : 500

1st pressure hPa : 700
C-rod trav.mm : 12.50...12.60
2nd pressure hPa : -
C-rod trav.mm : 10.70...11.00
3rd pressure hPa : 225
C-rod trav.mm : 11.80...12.10

SWITCH-OVER POINT
Speed 1/min : 220 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 90.0...94.0
1000H.: (88.0...96.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 59.0...61.0
1000H.: (57.0...63.0)

Remarks:
Set intermediate-speed stop (ZDA) to
contact at 1300 1/min, then turn back
1/2 turn.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 8,8 K 4
Edition : 12.09.86
Superceeded : 12.85
Calibrating oil : ISO-4113

Combination no. : 0 403 446 164

Injection pump
Pump designation : PES6MW100/32ORS1016
EP type number : 0 413 406 010
Governor
Governor design. : RQV300...1300MW25-4
Governor no. : 0 420 083 094

Customer-spec. information
Customer : RVI

Engine : MIDR06.02-12

1st version kW : 113.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 173...176

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.00...3.10
: (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Del.quantity cm3/ : 8.5...8.7

100H.: (8.3...8.9)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: -5.0...-5.1

Del.quantity cm3/ : 0.9...1.3

100H.: (0.7...1.5)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1300

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 85.5...87.5

1000H.: (83.5...89.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 57...65

Testing:

1st c-rod trav.mm : -1.00

Speed 1/min : 1370...1380

2nd c-rod trav.mm : -6.80

Speed 1/min : 1485...1515

3rd c-rod trav.mm : -9.80...-10.

Speed 1/min : 1650

LOWEST RATED SPEED I

Control-lever

position degrees: 8...16

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: -5.3...-5.5

Testing:

Speed 1/min : 200
C-rod trav.mm min : 3.70

CONSTANT REGULATION

Speed 1/min : 340...550

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 143
Contr.-rod trav.mm: -0.2...-0.3

Measurement

Speed 1/min : 500

1st pressure hPa : 700
2nd pressure hPa : -
C-rod trav.mm : -1.00...-1.10
3rd pressure hPa : 115
C-rod trav.mm : -0.70...-1.00

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 900
Del.quantity cm3/ : 82.0...86.0
1000H.: (80.0...88.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 54.5...56.5
1000H.: (52.5...58.5)

Remarks:

Start-of-delivery mark 10.5° cam angle
after start of delivery cyl. 1

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 14
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 403 446 169

Injection pump
Pump designation : PES6MW100/72ORS1131
EP type number : 0 413 406 123
Governor
Governor design. : RQV300...1300MW68
Governor no. : 0 420 083 101

Customer-spec. information
Customer : DB

Engine : OM 366 LA

1st version kW : 150.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quan%.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.90...12.00

Del.quantity cm3/ : 10.0...10.2

100H.: (9.8...10.4)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.9...6.0

Del.quantity cm3/ : 0.9...1.3

100H.: (0.6...1.5)

Dispersion cm3/ : 0.35

100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1350

Sleeve travel mm: 8.40...8.60

2nd speed 1/min: 1450

Sleeve travel mm: 9.30...9.70

3rd speed 1/min: 600

Sleeve travel mm: 3.90...4.50

4th speed 1/min: 300

Sleeve travel mm: 0.80...1.30

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1350

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 100.5...102.5

1000H.: (98.5...104.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 50...58

Del.quantity cm3/ : 54.0...56.0
1000H.: (52.0...58.0)

Testing:
1st c-rod trav.mm : 10.90
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1440...1470
3rd c-rod trav.mm : 0.00...1.00
Speed 1/min : 1550

Remarks:

LOWEST RATED SPEED I
Control-lever
position degrees: 11...19
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.9...6.0

Testing:
Speed 1/min : 100
C-rod trav.mm min : 7.60
Speed 1/min : 300
C-rod trav.mm : 5.9...6.0

CONSTANT REGULATION
Speed 1/min : 350...550
compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 170
Contr.-rod trav.mm: 10.40...10.50

Measurement
Speed 1/min : 500

1st pressure hPa : 700
C-rod trav.mm : 11.90...12.00
2nd pressure hPa : -
C-rod trav.mm : 10.10...10.20
3rd pressure hPa : 225
C-rod trav.mm : 11.50...11.80

SWITCH-OVER POINT
Speed 1/min : 220 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 85.0...89.0
1000H.: (83.0...91.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 15
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 170
 Injection pump
 Pump designation : PES6MW100/72ORS1139
 EP type number : 0 413 406 134
 Governor
 Governor design. : RQV300...1300MW69
 Governor no. : 0 420 083 102

Customer-spec. information
 Customer : DB

Engine : OM366A

1st version kW : 125.0
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
 : (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 8.2...8.4

100H.: (8.0...8.6)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 7.8...7.9
Del.quantity cm3/ : 1.0...1.4
100H.: (0.9...1.5)
Dispersion cm3/ : 0.35
100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1340
Sleeve travel mm: 8.40...8.60
2nd speed 1/min: 1450
Sleeve travel mm: 8.70...9.10
3rd speed 1/min: 600
Sleeve travel mm: 3.90...4.50
4th speed 1/min: 300
Sleeve travel mm: 0.80...1.30

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1350
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1300
Del.quantity cm3/ : 82.0...84.0
1000H.: (80.0...86.0)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.00
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1425...1455
3rd c-rod trav.mm : 0.00...1.00
Speed 1/min : 1550

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 7.8...7.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 10.20
Speed 1/min : 300
C-rod trav.mm : 7.8...7.9

CONSTANT REGULATION

Speed 1/min : 330...500

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1300
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 750
C-rod trav.mm : 11.90...12.00
3rd speed 1/min : 700
C-rod trav.mm : 12.10...12.20
4th speed 1/min : 1100
C-rod trav.mm : 11.00...11.20

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750
Del.quantity cm3/ : 79.0...82.0
1000H.: (76.5...84.5)
Dispersion cm3/ : 5.00
1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 13
Edition : 28.10.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 403 446 179

Injection pump
Pump designation : PES6MW100/72ORS1139
EP type number : 0 413 406 134
Governor
Governor design. : RQV300...1300MW74
Governor no. : 0 420 083 112

Customer-spec. information
Customer : DB

Engine : OM366LA

1st version kW : 170.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

N15

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 11.40...11.50

Del.quantity cm3/ : 7.6...7.8

100H.: (7.4...8.0)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.2...8.3

Del.quantity cm3/ : 1.0...1.4

100H.: (0.9...1.5)

Dispersion cm3/ : 0.35

100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1340

Sleeve travel mm: 8.50...8.70

2nd speed 1/min: 1450

Sleeve travel mm: 9.50...9.70

3rd speed 1/min: 700

Sleeve travel mm: 3.90...4.50

4th speed 1/min: 300

Sleeve travel mm: 1.30...1.70

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1335

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Del.quantity cm3/ : 76.0...78.0

1000H.: (74.0...80.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.40
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1430...1460
4th speed 1/min : 1550
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 18...26
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 8.2...8.3

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.70
Speed 1/min : 300
C-rod trav.mm : 8.20...8.30

CONSTANT REGULATION

Speed 1/min : 330...600

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300
C-rod trav.mm : 11.40...11.50
2nd speed 1/min : 750
C-rod trav.mm : 12.40...12.50
3rd speed 1/min : 1125
C-rod trav.mm : 11.80...12.10

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750
Del.quantity cm3/ : 68.0...70.0
1000H.: (66.0...72.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 8,8 K 6
 Edition : 5.11.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 180
 Injection pump
 Pump designation : PES6MW100/32ORS1016
 EP type number : 0 413 406 010
 Governor
 Governor design. : RQV300...1300MW25-6
 Governor no. : 0 420 083 115

Customer-spec. information
 Customer : RVI

Engine : MIDR-062-12-I

1st version kW : 130.0
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 021

Inlet press., bar : 2.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 173...176

Test inj. tubing : 1 680 750 014

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Del.quantity cm3/ : 9.1...9.3

100H.: (8.9...9.5)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: -5.6...-5.7

Del.quantity cm3/ : 0.9...1.35

100H.: (0.7...1.6)

Dispersion cm3/ : 0.35

100H.: (0.55)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1300

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm3/ : 91.0...93.0

1000H.: (89.5...95.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : -1.00

Speed 1/min : 1340...1350

2nd c-rod trav.mm : -7.20

Speed 1/min : 1480...1510

3rd c-rod trav.mm : -10.10...-11.1

Speed 1/min : 1600

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: -5.6...-5.7
Speed 1/min : 200
C-rod trav.mm max : 3.70

CONSTANT REGULATION

Speed 1/min : 325...550

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 220
Contr.-rod trav.mm: -1.5...-1.6

Measurement

Speed 1/min : 500

1st pressure hPa : 700
2nd pressure hPa : -
C-rod trav.mm : -2.1...-2.2
3rd pressure hPa : 265
C-rod trav.mm : -0.40...-0.70

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 900
Del.quantity cm3/ : 88.0...92.0
1000H.: (86.0...92.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 48.0...50.0
1000H.: (46.0...52.0)

Remarks:

Start-of-delivery mark 10.5° cam angle
after start of delivery cyl. 1

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 4,5 G
 Edition : 31.10.86
 Superseded : 4.85
 Calibrating oil : ISO-4113
 Combination no. : 0 403 474 001
 Injection pump
 Pump designation : PES4MW100/32ORS1102
 EP type number : 0 413 404 101
 Governor
 Governor design. : RSV300...1000MW1A31S
 Governor no. : 0 420 085 025

Customer-spec. information
 Customer : VOLVO-BM

Engine : TD45

1st version kW : 84.0
 Speed 1/min: 2000

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Pre-stroke mm : 2.80...2.90
 : (2.75...2.95)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 3- 4- 2

SD ang. spacing°CS: 0-90-180-270
 Tolerance - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 700

 Contr.-rod trav.mm: 11.90...12.00

 Del.quantity cm3/ : 10.9...11.1

 100H.: (10.7...11.3)

 Dispersion cm3/ : 0.35

 100H.: (0.6)

 2nd speed 1/min: 300.0
 Contr.-rod trav. m: 5.6...5.7
 Del.quantity cm3/ : 1.3...1.7
 100H.: (1.0...1.9)
 Dispersion cm3/ : 0.35
 100H.: (0.5)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 109.0...111.0
 1000H.: (107.0...113.0)
 Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 48...56

Testing:

1st c-rod trav.mm : 10.90
 Speed 1/min : 1040...1050
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1055...1085
 4th speed 1/min : 1200
 C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
 position degrees: 18...26
 Setting point w/out aux. spring

Speed 1/min : 300
Contr.-rod trav.mm: 5.1..5.2
Speed 1/min : 300
C-rod trav.mm : 5.10...5.20
C-rod trav.mm : 2.00
Speed 1/min : 360...420

SET IDLE AUXILIARY SPRING

Speed 1/min : 300
Contr.-rod trav.mm: 5.60..5.70

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1000
Del.quantity cm3/ : 110.0...114.0
1000H.: (107.5...116.5)
Dispersion cm3/ : 5.50
1000H.: (7.00)

Remarks:

Set 12.6...12.7 mm control-rod travel
at lower full-load stop with
n = 1000 1/min.
Make full-load setting at upper full-
load stop in accordance with test
specifications.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 1 G
Edition : 12.09.86
Superceeded : 11.82
Calibrating oil : ISO-4113

Combination no. : 0 403 476 010

Injection pump
Pump designation : PES6MW100/72ORS1013
EP type number : 0 413 406 009
Governor
Governor design. : RSV325...1100MW8/310
Governor no. : 0 420 085 011

Customer-spec. information
Customer : KHD

Engine : BF6L413

1st version kW : 147.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.10...3.20
: (3.05...3.25)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.80...11.90

Del.quantity cm3/ : 10.6...10.8

100H.: (10.4...11.0)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 325.0

Contr.-rod trav. m: 5.6...5.8

Del.quantity cm3/ : 1.2...1.6

100H.: (1.0...1.9)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1100

Charge press. hPa : 600

Del.quantity cm3/ : 106.0...108.0

1000H.: (104.0...110.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 46...54

Testing:

1st c-rod trav.mm : 10.80

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1155...1185

3rd c-rod trav.mm : 0.30...1.70

Speed 1/min : 1360

LOWEST RATED SPEED I

Control-lever

position degrees: 14...22

Setting point w/out aux. spring
Speed 1/min : 325
Contr.-rod trav.mm: 5.2...5.3

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 325
C-rod trav.mm : 5.20...5.30
C-rod trav.mm : 2.00
Speed 1/min : 550...610

SET IDLE AUXILIARY SPRING

Speed 1/min : 325
Contr.-rod trav.mm: 5.6...5.8

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100
C-rod trav.mm : 11.80...11.90
2nd speed 1/min : 900
C-rod trav.mm : 12.40...12.50

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 550
Contr.-rod trav.mm: 11.10...11.20

Measurement

Speed 1/min : 500
1st pressure hPa : 600
C-rod trav.mm : 12.40...12.50
2nd pressure hPa : -
C-rod trav.mm : 10.60...10.70
3rd pressure hPa : 550
C-rod trav.mm : 11.10...11.20

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 600
Speed 1/min : 900
Del.quantity cm3/ : 114.5...118.5
1000H.: (112.5...120.5)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 82.5...84.5
1000H.: (80.5...86.5)

Remarks:

N22

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 7
Edition : 12.09.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 476 037

Injection pump
Pump designation : PES6MW100/72ORS1130
EP type number : 0 413 406 122
Governor
Governor design. : RSV300...1300MWOA318
Governor no. : 0 420 085 052

Customer-spec. information
Customer : DB

Engine : OM 366 A

1st version kW : 125.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - ^o : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1280

Contr.-rod trav.mm: 11.00...11.20

Del.quantity cm3/ : 8.2...8.4

100H.: (8.0...8.6)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 750.0

Contr.-rod trav. m: 11.7...11.8

Del.quantity cm3/ : 1.0...1.4

100H.: (0.8...1.6)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Contr.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1280

Del.quantity cm3/ : 82.0...84.0

1000H.: (80.0...86.0)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 55...63

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1320...1330

2nd c-rod trav.mm : 4.00

Speed 1/min : 1380...1410

3rd c-rod trav.mm : 0.30...1.70

Speed 1/min : 1560

LOWEST RATED SPEED I

Control-lever

position degrees: 25...33

Setting point w/out aux. spring

Speed 1/min : 300
Contr.-rod trav.mm: 8.0...8.1

Testing:

Speed 1/min : 100

C-rod trav.mm min : 19.00

Speed 1/min : 300

C-rod trav.mm : 8.0...8.1

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1280

C-rod trav.mm : 11.00...11.20

2nd speed 1/min : 750

C-rod trav.mm : 11.70...11.80

3rd speed 1/min : 825

C-rod trav.mm : 11.40...11.60

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750

Del.quantity cm3/ : 80.0...82.0

1000H.: (77.0...85.0)

Dispersion cm3/ : 5.00

1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 8
 Edition : 28.10.86
 Superseded : 11.85
 Calibrating oil : ISO-4113

Combination no. : 0 403 476 040

Injection pump
 Pump designation : PES6MW100/720RS1130
 EP type number : 0 413 406 122
 Governor
 Governor design. : RSV350...750MWOA318-
 1
 Governor no. : 0 420 085 055

Customer-spec. information
 Customer : DB

Engine : OM366A

1st version kW : 84.0
 Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
 : (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.00...13.10

Del.quantity cm3/ : 8.7...8.9
 100H.: (8.5...9.1)

Dispersion cm3/ : 0.35
 100H.: (0.6)

2nd speed 1/min: 350.0
 Contr.-rod trav. m: 7.5...7.6
 Del.quantity cm3/ : 1.0...1.4
 100H.: (0.9...1.5)

Dispersion cm3/ : 0.35
 100H.: (0.5)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 87.5...89.5
 1000H.: (85.5...91.5)

Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 24...32

Testing:

1st c-rod trav.mm : 12.0
 Speed 1/min : 750...755
 2nd c-rod trav.mm : 4.0
 Speed 1/min : 775...788
 4th speed 1/min : 800
 C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
 position degrees: 11...19

Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 7.5...7.6

Testing:
Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 350
C-rod trav.mm : 7.50...7.60

SET IDLE AUXILIARY SPRING
Contr.-rod trav.mm: 2.00

Remarks: